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**FAILURE AND SUCCESS IN MERGERS  
AND ACQUISITIONS**

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# Failure and Success in Mergers and Acquisitions

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**Abstract** – This paper provides an overview of the academic literature on the market for corporate control, and focuses specifically on firms' performance around and after a takeover. Despite the aggregate M&A market amounting to several trillions USD on an annual basis, acquiring firms often underperform relative to non-acquiring firms, especially in public takeovers. Although hundreds of academic studies have investigated the deal- and firm-level factors associated with M&A announcement returns, short-run returns are often not sustained in the long run. Moreover, the wide variety of performance measures and heterogeneity in sample sizes complicates the drawing of accurate and unambiguous conclusions. In this light, our survey compiles the recent literature and aims to identify the areas of research for which short-run returns predict (or fail to predict) long-run performance. We find that post-takeover deal performance is affected by key determinants including serial acquisitions, CEO overconfidence, acquirer-target relatedness and complementarity, and shareholder intervention in the form of voting or activism.

**Keywords:** Takeovers; Mergers and Acquisitions; Long-Run Performance; Corporate Governance

**JEL Classification:** G34

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# Failure and Success in Mergers and Acquisitions

## 1. Introduction

Mergers and acquisitions (M&A deals) are among the most important events in a company's lifecycle and have a significant impact on the firm's operations and activities. M&A transactions enable firms to grow faster than firms relying on organic growth, allow them to penetrate new markets and cross-sell into a new customer base, expand their scope by acquiring a set of complementary products, buy a pipeline of R&D intensive products, patents, or trade secrets, avoid upstream or downstream market foreclosure by suppliers, reduce taxes by means of new subsidiaries situated in tax-friendly countries, realize cost synergies by eliminating surplus facilities and overheads, reduce competition, improve access to capital, etc.

Despite the vast amounts of money and resources spent on takeovers and the hundreds of academic studies investigating firm performance around and after a merger, the factors determining a deal's ultimate success are still not well understood. A large body of literature shows that bidder shareholders earn zero or even negative returns at the takeover announcement, especially for large public deals. When studying the share price evolution or operational performance of the merged firm over a longer time window (two to three years subsequent to the transaction), many studies equally show that bidders' shareholders receive little or even no positive return on takeover deals (see e.g. Andrade, Mitchell, and Stafford, 2001; Moeller, Schlingemann, and Stulz, 2004). Moreover, any anticipated synergies at the announcement of the deal may be overestimated due to e.g. behavioural biases, biased bidder press releases, price pressure, merger integration frictions, or unanticipated changes in the economic environment, as positive short-run announcement returns often do not materialize in the longer run (Agrawal and Jaffe, 2000; Malmendier, Moretti, and Peters, 2018).

Considering the ambiguous findings in terms of short- and long-run deal performance and the apparent lack of long-term value creation for the acquiring firms, we wonder: what goes wrong in takeovers? Why do bidders persist in undertaking M&A deals while decades of research show that the ex-ante probability of a successful and profitable takeover of a public company is low? What are the factors that contribute to a deal's long-term success or failure? Given that the complexity of the M&A process can pose challenges for even the most skilled and experienced acquirers, a great number of studies have attempted to identify the variables that determine the success of a takeover in terms of shareholder returns or accounting performance. These studies usually explain the returns around M&A transactions by concentrating on only one or a few features of the firms, deal, management teams, boards, or country. While this improves our understanding of M&A performance, it only provides a limited perspective on the complexity of the underlying process. In this paper, we compile the recent literature and attempt to identify the factors that contribute to a deal's long-run success or failure.

Before evaluating firms' performance around and after takeover announcements, it is crucial to determine how to properly measure firm performance. In Section 2, we therefore concentrate on methodologies and techniques used to calculate long-term share price reactions and operating performance following M&A transactions. In Section 3, we review the literature's existing conclusions on the drivers of short- and long-run post-takeover performance, such as bid type, deal attitude, the target's public or private status, bidder and target size, and means of payment. In Section 4, we then zoom in on the recent literature and aim to identify what factors consistently predict M&A deals' long-run success or failure<sup>1</sup>; we concentrate on the bidder's and target's acquisitiveness (i.e. serial acquisitions and learning), managerial quality (including

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<sup>1</sup> We focus on deal-, firm-, or country-level characteristics that have been investigated in a sufficient number of studies and for which both short- and long-run evidence is available.

the effect of hubris, overconfidence, and narcissism of top management), the CEO's and board's social ties and networks and their incentives and compensation contracts, the structure of the board and the quality and busyness of its members, firm ownership structure (i.e. institutional, insider, or family ownership), geographical and cultural distance between bidder and target, bidder-target country differences in terms of corporate governance regulation and investor protection, political economics, industry and product market relatedness, the bidder's and target's historical financial performance, post-merger restructuring, and the characteristics of the transaction (i.e. means of payment, sources of financing, timing of the deal). As the M&A literature is vast, our survey is predominantly confined to the finance literature, except for topics where finance studies borrow heavily from e.g. the strategy or economics literature. Section 5 concludes.

## 2. Measuring long-run performance

The market for corporate control has a strong impact on the corporate landscape: 91.4% of all publicly listed firms in the US engaged in at least one merger or acquisition in the 1990s and 2000s (Netter, Stegemoller, and Wintoki, 2011). Despite the vast number of studies on M&A deals in the finance literature, the conclusions on takeover performance are often ambiguous. Most of the M&A research has concentrated on the takeover announcement effect by using event studies that capture the anticipation of the takeovers' success or failure or, in other words, the discounted future cash flows generated by the takeover over and above a market benchmark. The research focus is usually on the short-run shareholder wealth effects from the viewpoint of the target, bidder, or the combined firm, and less on the long-run given the difficulties that arise in the measurement of long-run performance. Accurately measuring long-run returns remains of first-order importance, as short-run announcement returns often do not fully capture a deal's value creation effects due to the fact that information about synergies and the success of the integration process only gradually becomes available (the market may not fully anticipate e.g. employee or stakeholder resistance to the reorganization because of cultural differences) or due to potential biases such as price pressure or market inefficiencies (Mitchell, Pulvino, and Stafford, 2004; Malmendier et al., 2018).

Long-run performance can be measured in terms of stock returns or accounting measures, but both measures share the concern that it is not straightforward to isolate the takeover effect from other effects influencing the firm over the years following the transaction. Whereas the specification of benchmark returns only results in minor differences in a context of short-run event studies, the model choice for calculating expected returns becomes increasingly important as the length of the event window increases.<sup>2</sup> Small errors in setting up a benchmark expected return model can result in large errors in the abnormal long-run returns, and therefore can have important consequences for the significance and magnitude of the results (Kothari and Warner, 2007; Bessembinder, Cooper, and Zhang., 2018).<sup>3</sup> Given the importance of the performance measure choice for the evaluation of a deal's success, we briefly discuss some of the most commonly used methods (for a more in depth analysis, see e.g. Eckbo (2011) and Dionysiou (2015)).

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<sup>2</sup> The choice of the length of the post-merger event window is therefore an equally important choice when estimating long-run returns; there is a trade-off between choosing an event window that is long enough to completely capture the deal's relative over- or underperformance and the possibility of capturing confounding events and reducing the sample size which may bias the results. The large majority of empirical studies in our survey attempt to find a middle ground by estimating a three-year post-merger event window, which facilitates the comparison of results across studies. Where reported, we include shorter or longer event horizons in our overview tables. Our analysis of this issue is relatively limited due to the small number of studies that report multiple event windows. Nevertheless, it is important for the reader to take into account this trade-off when comparing studies based on event windows of varying length.

<sup>3</sup> For example, Andrade et al. (2001) argue that expected stock returns over a three-year window can range between 30% and 65% depending on the chosen model.

## 2.1 Long-run stock performance

As is the case for short-run announcement returns, long-run stock returns are typically measured by means of an event study methodology. Event studies can be classified in two broad categories: (i) studies that compare returns for event firms to those of a set of control firms based on matching firm characteristics such as size, industry, or market-to-book ratio (in cross-sectional models), and (ii) those that obtain alpha coefficients from regressing event firm returns on market-wide factor models such as the market model (MM), the capital asset pricing model (CAPM), or the Fama-French three/five factor models (FF3/5) possibly expanded by the momentum and liquidity factors (time-series models).<sup>4</sup>

As in short-run event studies, a simple and popular cross-sectional approach for measuring long-run abnormal returns following a takeover event is to calculate the cumulative abnormal returns (CARs) as the sum of the abnormal returns over a long event window starting at, prior to, or after the event. An alternative, popular method is that of the buy-and-hold abnormal returns (BHARs), which differs from the CARs in that it aggregates the abnormal returns geometrically rather than arithmetically over the event period, and it allows for compounding, whereas the CARs do not. Most of the early long-term event studies were almost exclusively based on BHARs, based on the idea that real investors hold assets for a specific time period, rather than earning abnormal returns on a day by day basis (Barber and Lyon, 1997). However, later studies show that BHARs are often insignificant once the biases in the BHAR methodology are corrected for (see e.g. Fama (1998), Mitchell and Stafford (2000), and Dutta and Jog (2009)).<sup>5</sup>

What CARs and BHARs have in common is that they both use event time (number of days relative to the event at  $t_0$ ). Event time studies assume independently distributed abnormal returns across firms. M&A events however tend to be clustered through time and by industry and are hence not random, resulting in cross-correlated abnormal returns and possibly overstated test statistics (Kolari and Pynnönen, 2010). Calendar time-based approaches such as calendar time abnormal returns (CTARs) or calendar time portfolio regression returns (CTPRs) can account for this issue by aggregating benchmark firms in matching portfolios, whose variance corrects for cross-sectional correlation in a firm's abnormal returns.

CTARs calculate abnormal returns each calendar month for all event firms, with benchmark returns allowed to change over time. Monthly CTARs are sometimes standardized by estimates of the portfolio's standard deviation to control for heteroskedasticity induced by the changing portfolio composition, and to add more weight to periods with more event activity. CTPRs, on the other hand, are based on the intercept from a time-series regression of a series of portfolio returns on a set of market-wide factors, where the portfolio firms have participated in an M&A event in the past  $n$  periods. The intercept from the regression measures the average monthly abnormal return on the event firm portfolio.

Although Mitchell and Stafford (2000) argue that the CTPR approach is less sensitive to misspecification than the CTAR calculation, the downside of CTPR is that the number of firms in the portfolio may vary across time periods and that, when each time period is weighted equally, abnormal returns are harder to identify because periods of high and low activity could average out (Loughran and Ritter, 2000). In addition, when one uses a factor model to estimate the expected returns, CTPR assumes that the factor loadings are constant over time, which is unlikely as the event portfolio composition changes every month and takeover events tend to be clustered through time and by industry. Betton, Eckbo, and Thorburn

<sup>4</sup> Bessembinder and Zhang (2013) find that any difference in results between cross-sectional and time-series models is due to the imperfect matching of event and control firms, and argue that cross-sectional measures such as BHARs should match not only on size and market-to-book, but also on idiosyncratic volatility, liquidity, momentum, and capital investment.

<sup>5</sup> A concern with BHARs is that they can be biased through the influence of new listings, rebalancing of benchmark portfolios, or the skewness of long-run returns. Lyon, Barber, and Tsai (1999) address this issue by introducing a bootstrapped skewness-adjusted t-statistic, building on the methods used in, amongst others, Ikenberry et al. (1995).

(2008) compare the matched-firm CTAR technique to the CTPR approach in combination with a factor model. They report that the matched-firm technique identifies matched firms that have different factor loadings than the firms in the event sample and therefore also prefer the CTPR factor model approach which avoids this problem altogether. In a recent paper, Bessembinder et al. (2018) propose a new methodology which considers both market-wide factors and factors that distinguish between event and non-event firms. First, cross-sectional regressions of firm returns on a set of firm characteristics are estimated to establish predicted benchmark returns. Second, the difference between these predicted and realized returns are regressed on a set of indicator variables identifying firms and months, allowing for time-variation in firm characteristics. Although this methodology does not have a broad basis in the empirical literature yet, the continuing development of long-run estimation techniques highlights the importance of considering both short-run and long-run performance measures when evaluating M&A success and value creation.

## 2.2. Long-run operating performance

The anticipation of real economic gains cannot easily be distinguished from market mispricing when only examining stock market prices over the short run (Healy, Palepu, and Ruback, 1992). Accounting-based performance measures – such as ROA, cash flows, sales, employee growth, or operating margins - can be a more direct metric of synergistic gains or losses, and represent the value-added by the acquisition (Fu, Lin, and Officer, 2013). However, as with long-term stock returns, concerns may arise regarding the statistical properties and potential measurement errors in studies based on long-run post-takeover operating performance. The use of accounting data to measure post-merger performance suffers from inherent noisiness, as mergers often come with restatements, write-downs, special depreciation or amortization following divestitures of some acquired assets, or subsequent M&A deals, making it difficult to isolate the effect of a merger event. Changes in accounting standards over time or differences between earnings-based and cash-flow based measures of operating performance can likewise considerably affect the results, up to the point where post-merger performance may decline based on earnings-based measures, but increase for cash-flow based measures (Ravenscraft and Scherer, 1987, 1989).<sup>6</sup>

In addition, if the merger is a response to an industry shock, using the firm's pre-merger performance as a benchmark will not be sufficient. Choosing a correct benchmark is therefore at least as important for calculating long-run operating performance as it is for long-run stock performance. A popular approach which adjusts for industry performance is to look at the intercept of a cross-sectional regression of the firm's post-merger industry-adjusted operating performance on its pre-merger performance (Healy et al., 1992). Industry-adjusted benchmarks may however still be biased if common economy-wide shocks affect all deals at a particular point in time, or if merging firms outperform industry-median firms in the pre-merger period (Martynova, Oosting, and Renneboog, 2007). Merging firms may be larger and thus more profitable than smaller firms (Fama and French, 1995), or they may engage in acquisitions in periods when their operating performance is higher than normal. Morck, Shleifer, and Vishny (1990), Barber and Lyon (1997) and Loughran and Vijh (1997) conclude that long-run operating performance needs to be compared to control firms, matched not only on industry but also on pre-merger features such as performance and size. Harford (2005) argues in favour of expanding the traditional operating

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<sup>6</sup> Earnings-based measures may be subject to earnings manipulation before a bid is made to increase the target's attractiveness, but also post-deal performance may be affected: target management is often replaced after the firm is taken over, and new CEOs may manipulate post-deal earnings in order to improve their appeared performance relative to their predecessors. In addition, different definitions of ROA or ROE across studies may result in different conclusions. However, many empirical studies provide little clarification on the construction of post-merger operating measures which limits our ability to observe how post-deal performance is affected by the choice of earnings- versus cash-flow based measures.

performance measures with analyst forecasts to mitigate problems with performance benchmarks, and more recently, Bessembinder and Zhang (2013) propose a regression model that controls for additional firm characteristics that explain the cross-sectional variation in stock returns, such as illiquidity, volatility, and market beta. Nevertheless, it is important to note that Gormley and Matsa (2014) show that industry-adjusting and adding industry averages as controls produce inconsistent and biased estimates, and argue in favour of industry by year fixed effects models to control for industry-specific shocks. Rather than expanding the number of pre-merger matched characteristics, Malmendier et al. (2018) exploit close merger contests and use the losing bidders' performance as the counterfactual for the winners' had they not won the contest. Consistent with acquirer's long-run underperformance, they find that losing US bidders outperform winners by 24% (equivalent to a value loss of more than \$2,000m). Although this approach restricts the sample to merger contests, the authors find that short-run announcement returns are uninformative about the deal's long-run performance, which stresses the importance of considering long-run return measures when evaluating a deal's ultimate success.

Alternative approaches for measuring post-merger performance regard total factor productivity (TFP) and market share evolution. TFP research enables an analysis at the plant-level (often by means of the Longitudinal Research Database at the US Bureau of the Census). For example, Maksimovic, Phillips, and Prabhala (2011) and Li (2013) show that acquirers create value in M&A deals by increasing the target's productivity (TFP), and that retained target plants increase their TFP and product margins more than plants that are sold off. Ghosh (2004) examines market shares and uncovers a large increase in the acquiring firm's market share three years after the acquisition, and a positive relation between market share evolution and the firm's long-run operating performance.

### **3. Empirical findings on short- and long-run stock returns and operating performance**

#### *3.1 Short-run returns*

Short-run event studies have by far been the most popular approach to evaluate takeovers since the 1970s (Martynova and Renneboog, 2008a). Out of the 151 studies in our overview, 62 only investigate short-run returns, 23 only investigate long-run returns, and 66 include an analysis of both short- and long-run wealth effects. Takeovers are on average expected to create value as reflected in the weighted average of the announcement returns of bidders and targets, but the bulk of the returns accrue to the target shareholders who hold most of the bargaining power in the takeover negotiations. Returns differ over time and across takeover waves: Eckbo (1983) and Eckbo and Langohr (1989) report 6% two-day CARs for US targets in the 1960s and 1970s, Martynova and Renneboog (2011a) report CARs for European targets of 16% for the 1990s, Netter et al. (2011) report target two-day CARs for US targets of around 24% for the 2000s, and Alexandridis, Antypas, and Travlos (2017) obtain US target CARs of 29% for the 2010s. The announcement returns to the acquirer shareholders are either close to zero (some studies report small statistically significant gains, others report small losses) or indistinguishable from zero (Netter et al., 2011). Asquith (1983) and Eckbo (1983) report slightly positive announcement CARs during the 1960s and 1970s as do Martynova and Renneboog (2011a) for the 1990s, but Morck et al. (1990) and Chang (1998) report slightly negative returns for the 1970s and 1980s. Alexandridis et al. (2017) however report slightly positive acquirer CARs again for the 2010s. The combined (weighted) acquirer and target announcement returns are significantly positive and slightly increase over time, but remain small: combined returns amount to 1.5% in the 1970s and 2.6% in the 1980s (Andrade et al., 2001), 1.06% in the 1990s (Betton et al., 2008), 1.69% in the 1990s and 2000s (Maksimovic et al., 2011), and 4.51% for the 2010s (Alexandridis et al., 2017). These numbers reflect that the bidding firms generate lower CARs and are relatively larger (by a factor of 4) than the target firms.



The empirical literature has identified a number of takeover bid characteristics, such as bid type, deal attitude, the target's public or private status, bidder and target size, and means of payment, that can partially explain return differences across M&A waves. Short-run returns to bidders and targets are generally higher in tender offers relative to friendly merger negotiations (Schwert, 1996; Franks and Harris, 1989; Loughran and Vijh, 1997; Bouwman, Fuller, and Nain, 2009; Eckbo, 2011; Martynova and Renneboog, 2011a). Tender offers are associated with higher and faster completion rates, but also higher premiums. This is consistent with tender offers signalling a higher degree of confidence in the deal, but also with higher bidder demand and fear of potential competing offers by rival bidders (Offenberg and Pirinsky, 2015). As tender offers are often hostile in attitude (as the bidding firm bypasses the board and directly addresses an offer to the target shareholders) and premiums are typically higher, target returns in tender offers are generally much larger than those in friendly deals. This difference is even more striking for hostile deals in which the target board rejects the offer, because the market expects that opposition to a bid will trigger upward bid revisions (see Servaes (1991) for the US; Franks and Mayer (1996) for the UK; Martynova and Renneboog (2011a) for Europe). Although bidder returns are expected to reflect the opposite pattern (bidder shareholders may fear overbidding in hostile transactions that may allot more than the expected synergy value to the target shareholders and hence drives the acquirer's share price down), some argue that bidder returns and combined returns should also be positive and larger in hostile deals. This is because rational decision making by the bidder should imply that hostile offers are only used when favourable outcomes are more likely (relative to privately negotiating with a target) (Schwert, 2000), but also because hostile bids could result in an upward revision of the stand-alone value of the bidder (Bhagat, Dong, and Hirshleifer, 2005).

All-cash bids typically result in higher announcement returns for both the target and the acquirer than all-equity bids (Loughran and Vijh, 1997; Bhagat et al., 2005; Savor and Lu, 2009). The common argument here is that takeovers are to be financed with cash when the management believes the acquiring firm's stock is undervalued, and with stock in case of overvaluation. As such, the market adjusts the bidder's stock price based on the expected over- or undervaluation. Moreover, Li, Taylor and Wang (2018) show that even when opportunistic, overvalued bidders lose a bidding contest, they impose a negative externality on winning bidders by driving up prices. Market timing cannot fully explain the use of stock as means of payment, as stock is used as frequently in the most value-reducing and value-creating deals (Netter et al., 2011). Given the large number of recent papers on the issue of deal financing and the method of payment, we will elaborate more in Section 4.14.

Netter et al. (2011) also show that clustering of M&A deals in waves is attenuated by the presence of smaller or privately held firms, which are generally excluded from M&A samples due to data constraints. Samples that do include small deals and private acquirers follow a smoother and less wavelike pattern than samples predominantly focused on large and public firms. Moreover, the authors confirm earlier evidence on announcement return differences between deals involving public and private targets (e.g. Fuller et al., 2002; Conn et al., 2005; Capron and Shen, 2007): acquirer announcement returns are typically negative for samples including large and public firms, whereas they are significantly positive for small and private deals. Similarly, Schneider and Spalt (2017b) document that when considering public targets, low bidder returns are associated with small bidders and large targets, whereas this pattern reverses when considering privately held targets. These effects may be driven by the target's lower relative bargaining power in private deals (leading to lower premiums and risk of bidder overpayment) or by the larger restructuring cost in public M&A deals (i.e. due to organizational inertia, stakeholder entrenchment, or regulatory constraints). Jaffe, Jindra, Pedersen, and Voetmann (2015) empirically test several of the theories explaining the public-private target return differentials (higher synergies, lower financial flexibility in the target, target valuation uncertainty, and target bid resistance), but do not find consistent empirical

evidence for either of these explanations. In addition, in contrast to the consensus in earlier work, Alexandridis et al. (2017) point out that bidder returns for public targets have increased in recent years, from -1.08% in the 1990-2009 period to 1.05% in the post-2009 period (equivalent to an average dollar value improvement of \$208m). They report that these returns are mainly driven by so-called mega deals (priced over \$500m), which earn acquirer returns of 2.54%.

### 3.2 Long-run returns

When extending the time window to several years subsequent to the deal, the vast majority of studies report significantly negative returns accruing to acquirer shareholders. For surveys on the long-term post-acquisition performance literature, see Agrawal and Jaffe (2000), Andrade et al. (2001), King et al. (2004), Martynova and Renneboog (2008a), Dutta and Jog (2009), and Bessembinder and Zhang (2013). Agrawal and Jaffe (2000) conclude that there is strong evidence of long-term underperformance following a takeover event, but caution that the use of inadequate estimation techniques (up to the 1990s) makes drawing robust conclusions from these studies rather difficult. Andrade et al. (2001) report generally negative abnormal returns for the combined firm over three- to five-year periods following the deal's completion. King et al. (2004) find insignificant or negative long-run acquirer market and accounting returns, with returns already declining in the period starting 22 days after the deal's announcement. They thus conclude that, at the very least, M&A deals do not increase the acquiring (or combined) firm's performance.

A number of transaction characteristics seem to have some predictive power for long-run returns: the most important ones of which are the means of payment, deal attitude, and the public status of the target firm. While long-run studies concentrating on the deal's attitude (friendly vs hostile) yield mixed results (Franks et al., 1991; Cosh and Guest, 2001), the acquisition of publicly listed target firms is associated with higher long-run bidder returns relative to the purchase of privately owned target firms (Bradley and Sundaram, 2004; Croci, 2007). Cash-financed deals earn significantly higher returns than equity-financed ones (Mitchell and Stafford, 2000; Loughran and Vijh, 1997; Savor and Lu, 2009; Fu, Lin, and Officer, 2013), a finding that can be explained by signalling as equity-financing may signal the bidder's overvaluation (Myers and Majluf, 1984). However, Savor and Lu (2009) argue that bidders' long-term shareholders are still better off with a stock deal than they would have been without the M&A transaction taking place, suggesting that stock deals are not necessarily bad for shareholders.

At least three theoretical explanations have been offered to explain negative long-term bidder abnormal returns. The most common argument is that the market only slowly adjusts to takeover news, such that the long-term return reflects the true acquisition value that had not been captured by the announcement returns. In other words, the initial expected synergies are overestimated, and the overestimation is only gradually undone. Second, the earnings-per-share (EPS) myopia hypothesis states that managers are more likely to overpay for an acquisition if this increases the EPS in the short run. If the market initially overvalues such firms, a negative long-run post-acquisition stock correction will take place. However, Rau and Vermaelen (1998) find no evidence for this hypothesis and formulate an alternative explanation: performance extrapolation. This hypothesis states that both the acquiring firm's management and the market extrapolate past performance when valuing a new acquisition. The authors distinguish "value" firms, which have high book-to-market equity ratios and which tend to yield higher returns, and "glamour" firms, which have low book-to-market ratios. Glamour firms are initially overvalued which induces negative long-run post-acquisition returns: the abnormal returns three years after the merger are -17.3% for glamour acquirers (versus 7.6% for value acquirers). A last explanation suggests that the difference between the outcomes of short-term and long-term studies is due to the methodological issues, which implies that these outcomes cannot be compared. Overall, the only robust factors associated with long-run performance appear to be the means

of payment and the target's public status. The literature therefore does not provide many consistent explanations for why M&A performance seems to decline in the long run.

#### 4. What leads to success or failure in M&A transactions?

In spite of the extensive empirical evidence on the wealth effects of takeovers, it is not easy to answer the question as to whether takeovers are value-creating or value-destroying corporate events. It is also not straightforward to identify the drivers behind the short-run or long-run abnormal returns, as these returns may reflect not only the stand-alone value of the acquiring firm, but also the potential synergies resulting from the merger deal or a possible overpayment by the bidding firm (Hietala, Kaplan, and Robinson, 2003). While the announcement returns to the combined firm are significantly positive, long-run studies provide conflicting evidence and hence cast doubt on the degree to which the announcement gains correctly anticipate incremental value. Indeed, earlier research has identified that variables such as firm diversification, status of the target (public versus private), deal attitude (friendly versus hostile), means of payment (all cash, all equity, or mixed offer), and bid type (tender offer or negotiation) are significantly related to announcement takeover returns. Still, King et al. (2004) argue in their literature overview that many of these transaction variables do not significantly predict post-acquisition performance and hence emphasize the importance of ferreting for unidentified variables to explain the variance in post-acquisition performance.<sup>7</sup>

In this context, our survey focuses on finance studies published after 2005, and zooms in on deal and firm characteristics that may affect deal performance and for which both short- and long-run evidence is available.<sup>8</sup> We discuss serial acquisitions and learning effects; CEOs' traits such as overconfidence and narcissism; CEOs' compensation contracts; top managers' and directors' networks and social ties; board composition; differences in corporate cultures between targets and bidders; spill-over effects of countries' culture, values, and investor protection; corporate types based on control rights concentration held by institutional investors, families, other corporations, governments; geographical distance between bidder and target; bidders' and targets' industry- and product market-relatedness; political influence on acquisitions; sources of financing; target acquisitiveness; and differences in CSR policies between bidder and target.

##### 4.1 Serial acquirers

We first turn to one of the most popular explanations for acquirers' long-run underperformance: CEOs' overconfidence and CEOs' acquisitiveness. A vast percentage of bidding firms are frequent or serial bidders. Klasa and Stegemoller (2007) show that takeovers that occur within a sequence (which they define as five or more acquisitions by a firm in more than 12 months, but with no more than 24 months in between any two deals) make up more than 25% of M&A activity in the 1980s

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<sup>7</sup> For other overviews on relevant takeover variables in the finance, accounting, management and organizational literature, see amongst others Gomes, Angwin, Weber, and Tarba (2013), Halebian et al. (2009) and Barkema and Schijven (2008). A recent survey of the historical and current M&A literature can be found in Mulherin, Netter, and Poulsen (2017) who provide a summary of over 120 M&A papers published since 2011. They give a comprehensive overview of the development of M&A research since the 1980s as well as a discussion on the validity of reported results. Like many of the existing survey papers, they focus primarily on a deal's short-run announcement returns. In contrast, our study of more than 150 recently published papers compares short- and long-run return measures and seeks to identify M&A characteristics that consistently predict long-run success or failure in terms of stock returns and operating performance. Our main focus is therefore on areas of the M&A literature that enables us to compare short- and long-run return measures, whereas Mulherin et al. (2017) primarily focuses on new and growing areas in the literature that have become available due to e.g. new data availability. Some of these areas (e.g. networks, international deals) may of course overlap with our selection criteria of short- and long-run return availability.

<sup>8</sup> We occasionally include some pre-2005 studies in those sections where we intend to contrast results from older studies to more recent evidence.

and 1990s. Netter et al. (2011) find that for the 1990s and 2000s, 75.5% of listed US firms frequently participated in M&A deals with an average of eight deals per firm, and Alexandridis et al. (2017) report that serial acquisitions make up 32% of public deals and 31% of private deals in the 2010-2015 period. Golubov, Yawson, and Zhang (2015) also find that one-off acquirers are virtually inexistent, and stress the importance of accurately isolating the takeover effect from other factors affecting the firm when measuring long-run returns. Although definitions of a serial acquirer vary across studies, the consensus is that the performance of serially or frequently acquiring firms is on average declining from deal to deal both at the firm level (e.g., Fuller et al., 2002; Conn et al., 2005; Croci, 2005; Antoniou, Petmezas, and Zhao, 2007; Ahern, 2010; Ismail, 2008; Laamanen and Keil, 2008; Aktas, de Bodt and Roll, 2009) and at the CEO level (Billett and Qian, 2008; Aktas, de Bodt and Roll, 2011; Jaffe, Pedersen, and Voetmann, 2013), and this finding holds for both US and UK public companies.

Out of the 19 studies in Table 1 that investigate serial acquirers, 17 report short-run announcement returns and 9 studies report long-run stock or operating performance. 14 out of 17 short-run studies find negative or declining short-run announcement CARs to acquirer shareholders, and 7 out of 9 long-run studies find negative or declining acquirer long-run abnormal stock returns or operating performance. 11 studies confirm the negative relationship between acquisitiveness and performance: for example, Fuller et al. (2002) report bidder returns of 2.74% for first bids, whereas the fifth and higher bids earn returns of merely 0.52%. Similarly, Antoniou et al. (2007) report 1.66% returns for first bids, with returns gradually declining until they become insignificantly different from zero for 4<sup>th</sup> and higher order bids, and Ismail (2008) reports returns of 2.67% for a first bid, and -0.02% for tenth bids. Not only short-run returns decline, serial acquirers' long-run performance (both in terms of stock and operating performance) also diminishes with each acquisition. For stock performance, Antoniou et al. (2007) report 3-year CTARs of -0.43% for a sample of frequent acquirers and Laamanen and Keil (2008) report that BHARs decline by 4.8% as the acquisition rate increases. Billett and Qian (2008) report 3-year buy-and-hold excess returns of 32% for first deals, whereas fourth deals only earn 9.86%. For operating performance, Klasa and Stegemoller (2007) report 4-year changes in the operating income-to-sales ratio of 1.8% for first deals and of -0.1% for subsequent deals. Declining cash flow-to-assets ratios for higher order deals are also documented by Ismail (2008).

Overall, the evidence consistently shows that serial or frequent acquirers' short- and long-run stock and operating performance declines as the firm increases its acquisitiveness. Serial acquirers' underperformance therefore does not depend on the event window or methodology choice: returns consistently decrease after each deal, regardless of whether performance is measured over the short- or the long-run, or whether time-series or cross-sectional stock return or operating performance measures are used. In the next sections, we will discuss the three main explanations provided by the literature for the average underperformance of serial acquirers: CEO overconfidence and narcissism, learning, and the diminishing attractiveness of the firm's opportunity set. In the last section, we also investigate target acquisitiveness.

[Insert Table 1 about here]

#### 4.1.1 *Hubris, overconfidence, and narcissism*

Doukas and Petmezas (2007) and Malmendier and Tate (2008) argue that CEOs who engage in multiple acquisitions over a short time span could be regarded as *overconfident*. Building on Roll's (1986) hubris hypothesis and the investment framework by Heaton (2002), their overconfidence hypothesis states that there is a misalignment in the beliefs of the CEO and the market about the firm's value: serially acquiring managers overestimate their ability to identify profitable target firms and to create synergy gains. Indeed, some of the first studies to investigate frequent acquirers explain the declining returns for higher order deals by acquirers' inability to negotiate better prices and create synergies (Fuller et al., 2002;

Antoniou et al., 2007). It should be noted that the overconfidence hypothesis does not coincide with the agency costs or empire-building hypothesis developed by Jensen and Meckling (1976) because, from a hubris perspective, CEOs believe they act in the best interest of shareholders.<sup>9</sup>

Malmendier and Tate (2008) confirm that (serial) acquisitions by overconfident CEOs – defined by the CEOs' timing of exercising vested stock options – do indeed generate lower announcement returns than deals by CEOs not subject to overconfidence. In addition, they find that announcement returns around serial acquisitions are also lower when the takeover announcement follows a confidence-boosting event for the CEO (such as a 'Manager of the Year' award), which gives the CEO a "superstar" status (Malmendier and Tate, 2009). Also examining a sample of public US acquirers, Billet and Qian (2008) additionally find that long-term buy-and-hold returns (BHARs) decline from deal to deal and that, consistent with the overconfidence hypothesis, CEOs' inside ownership is larger for higher order deals. Doukas and Petmezas (2007) and Antoniou et al. (2007) confirm the US findings for a sample of UK acquirers, by demonstrating that higher order deals perform worse over the short- and long-run than first order deals, and by showing that serially acquiring managers double their insider ownership relative to single acquirers. Both studies also report that positive (but declining) announcement returns are not sustained over the long run; long-run CTARs and CTPRs remain significantly negative. Whereas the majority of the studies analysing CEO overconfidence in M&A transactions only investigates the effect of the acquirer CEO's overconfidence, Kose, Liu, and Taffler (2011) examine the relative overconfidence of the bidder and target CEOs. They report that if both decision makers are prone to overconfidence, the acquirer announcement returns are lower relative to deals where only one or neither party is identified as being overconfident.

A trait related to overconfidence is narcissism, defined in Aktas et al. (2016) as egocentricity, lack of empathy, unrelenting search for the spotlight, an overdeveloped sense of entitlement, and even contempt towards others. Aktas et al. (2016) proxy narcissism by measuring the CEO's use of the first-person singular pronoun relative to his use of the first-person plural pronoun in meetings with analysts. Consistent with the research on overconfidence, the authors find that CEO narcissism is negatively related to merger announcement returns, positively related to deal completion probability, and negatively related to the length of the takeover process.

Finally, whereas the majority of the research on CEO overconfidence finds a negative effect on deal performance, Kolasinski and Li (2013) report that CEOs' stock trading experience helps overconfident CEOs avoid making value-destroying acquisitions. Using a measure of overconfidence based on insider trading data, they find that overconfident CEOs' recent trading losses reduce their acquisitiveness and increase short-run announcement returns. Overall, the literature on CEO overconfidence shows that serial acquisitions by overconfident CEOs are on average value-destroying both in the long and short run. Although there is some evidence that recent trading experience induces CEOs to become less acquisitive and make less value-destroying deals, CEO overconfidence – proxied by option exercising or inside ownership – is consistently negatively related to deal performance, regardless of the performance measure examined (CTARs, CTPRs, BHARs, or ROA).

#### *4.1.2 CEO and organizational learning*

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<sup>9</sup> Maksimovic et al. (2011) investigate the empire building hypothesis for serial acquirers, and predict that repeat acquirers are less likely to sell plants after acquisitions and show fewer improvements in performance. They find no evidence for these predictions and find instead that disposition of assets is in fact more likely than retention for repeated acquirers.

In contrast to studies in the previous subsection, Aktas et al. (2009) argue that attributing declining returns in serial acquisitions to growing hubris or overconfidence is hard to reconcile with the original hubris framework of Roll (1986). Their theoretical analysis proposes an alternative hypothesis based on *CEO learning*. This hypothesis implies that acquirer CEOs improve their target selection and integration processing abilities gradually, from deal to deal, which affects their bidding behavior during subsequent takeover contests. In an empirical follow-up study, Aktas, de Bodt and Roll (2011) find considerable persistence in the level of bidding (persistently high or low bids), and the market reactions to previous deals affect the persistence of the CEO's bidding behaviour: the better (worse) investors' reactions to previous announcements, the higher (lower) the bid premium of the subsequent deal. In other words, CEOs bid more aggressively following positive announcement market reactions and overbid in subsequent deals which decreases the announcement acquirer returns of later deals, but they overbid less for subsequent deals if previous market reactions were negative.<sup>10</sup> Importantly, these predictions stand in contrast with the general findings that overconfident CEOs experience a decline in performance from deal to deal.

In line with Aktas, de Bodt and Roll (2011), Conn et al. (2005), Croci and Petmezas (2009) and Jaffe et al. (2013) document a positive persistence in announcement bidder returns for acquisitions studied at the CEO level. Deals by CEOs who were successful acquirers in the past trigger higher CARs than deals by CEOs with a less successful acquisition history, which suggests that some CEOs may have superior acquisition skills. Conn et al. (2005), for example, find that - although UK acquirers with successful first acquisitions incur declining short- and long-run returns at subsequent acquisitions while unsuccessful first acquirers generate increasing returns in later acquisitions - successful first acquirers' later announcement returns still remain higher than those of unsuccessful first acquirers. Similarly, Jaffe et al. (2013) report for the US that returns increase by 1.02% (equivalent to an average of \$175m) if a previous deal was successful. Unfortunately, none of the above studies examine whether the CEO learning hypothesis also extends to the long run. A related paper by Qian and Zhu (2017) investigates CEOs' ability to efficiently deploy capital (proxied by the firm's pre-merger return on invested capital (ROIC)) and how this affects M&A performance. Although not explicitly investigating serial acquirers, the authors report that acquirers with high pre-merger ROIC outperform low-ROIC acquirers in terms of long-run stock and operating performance (but not in terms of short-run returns), with low-ROIC acquirers even underperforming relative to non-acquiring firms. Importantly, they confirm that this is a CEO-level rather than a firm-level effect, as the results are weaker if the acquirer's CEO changes after the deal is completed.

The previous studies favour measuring serial acquirers' performance at the CEO level, as a series of acquisitions by a specific firm is often undertaken by different CEOs. They explain the persistence in deal performance by CEO-level effects such as CEO learning and managerial ability. Golubov et al. (2015) however stress the importance of studying deal performance at the firm level. They find that a firm-specific, time-invariant, and CEO-independent factor explains a considerable share of the variation in short-run acquirer returns, overshadowing many other firm- and deal-specific characteristics. They show that good acquirers continue to engage in deals with positive announcement returns and that bad acquirers continue to make value-destroying deals. They suggest that this may be due to organizational knowledge or bidder-specific resources (e.g. internal M&A teams, or particular assets, or business models well suited for M&A integration). Li, Qiu, and Shen (2018) define firms' organizational capital as the knowledge and business processes that allow firms to efficiently use their resources (proxied by the firm's selling, general, and administrative (SG&A) expenses). In line with

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<sup>10</sup> Serial acquirers' poor performance may be driven by poor governance and monitoring, enabling entrenched managers to engage in empire-building behaviour. Aktas et al. (2009) however find that, controlling for managerial entrenchment and institutional monitoring, even hubris-affected CEOs bid less aggressively after negative market reactions to previous deals.

Golubov et al. (2015), they report that acquirers with more organizational capital earn higher short- and long-run stock returns and perform better in terms of ROA. However, they also find that the organizational capital effect on deal performance is less pronounced for the sample of serial acquirers and argue that serial acquirers may not have sufficient time to apply organizational resources, or that the many changes to the firm may dilute the organizational capital.

Two earlier studies investigate the learning hypothesis in the context of related acquisitions and acquisition experience. Laamanen and Keil (2008) report that although serial acquirers' long-run stock returns are on average negative, the negative effects are alleviated the larger is the acquirer's experience, size, and scope of its acquisition program. Similarly, Kengelbach et al. (2012) refer to a specialized-learning hypothesis and state that acquisition experience leads to superior performance provided that the experience is applied to acquire similar target firms. As in Li et al. (2018), the overall declining performance of serial acquirers is then attributed to the increasingly complex target integration processes and diversifying acquisitions.

Overall, whether serial acquisitions and acquisition experience should be measured at the CEO-level or at the firm level remains an open question, with the extant literature supporting both types of perspectives. The negative average performance of serial acquirers implies that many managers and/or firms do not learn from their acquisition experience. Nevertheless, the studies we have discussed in this section suggest that a (small) set of successful acquiring firms/CEOs do travel the learning curve resulting in positive average merger returns, especially when targets are sufficiently similar. Unsuccessful firms/CEOs however lack the specific abilities needed to achieve organizational learning gains. Most of this evidence is based on short-run returns however, with only 3 out of 9 studies also reporting long-run performance. Both the CEO learning and the organizational learning hypotheses receive some support, both in terms of long-run stock returns and operating performance.

#### *4.1.3 Diminishing attractiveness of opportunity set*

Serial acquisitions may reduce the firm's investment opportunity set, especially for within-industry deals. Klasa and Stegemoller (2007) report that takeover sequences begin after an expansion of the firm's opportunity set and end when the opportunity set closes off. They find that this gradual exhaustion of interesting takeover targets induces lower long-run stock and operating performance: one-year bidder abnormal returns are insignificant for the first acquisition and become significantly more negative with subsequent acquisitions. The five-year post-acquisition returns confirm this negative trend for later acquisitions. Moreover, the authors argue that these results are unlikely to be explained by overconfident managers making bad acquisitions, as this hypothesis is not related to the contraction in industry-level investment opportunities at the end of a takeover sequence. Taken together, the firm's growth opportunity set gradually closes off as the best opportunities are taken first.

#### *4.1.4 Target acquisitiveness*

In addition to the large literature on serial acquirers, a small but growing literature also investigates the effect of the target's acquisitiveness. Phalippou et al. (2014) investigate a sample of public US acquiring and target firms and define acquisitiveness based on the number of acquisitions a target has made over the previous three years. They find that the acquirer's announcement returns are significantly lower for deals involving more acquisitive targets relative to non-acquisitive target firms and that these effects are responsible for half of the overall negative announcement returns. They argue that acquirers' motivation to engage in such value-destroying acquisitions often is of a defensive nature: acquirers

acquire in order to not be acquired themselves. However, they find no significant relationship for long-term stock returns, indicating that these results may not be sustained over the long run.

Offenberg, Straska, and Waller (2014) also consider target acquisitiveness, but focus specifically on targets with poor acquisition histories to investigate whether the disciplinary nature of the takeover market can recover the value lost from the target's poor historical acquisition performance. They report that although target shareholders receive higher premiums, acquirer shareholders earn increasingly negative announcement returns as the target's acquisition history performance (measured as the sum of the target's past acquisition CARs) declines and as the target's number of previous acquisitions increases (confirming the results in Phalippou et al. (2014)). Moreover, the acquirers in these deals are also more likely to be serial acquirers, which suggests that target acquisitiveness may also be able to explain serial acquirers' poor performance. They conclude that acquisitions of bad targets transfers wealth from acquirer to target shareholders, and that the disciplinary nature of the takeover market cannot recover the value lost from the target's prior acquisitions. Overall, although the studies above consistently indicate that deals involving acquisitive targets earn worse short-run returns, there is no indication that these results are also upheld in the long run.

#### ***4.2 CEO incentives and compensation***

As discussed in Section 4.1, narcissistic or overconfident CEOs may be motivated to undertake potentially value-destroying M&A deals by the prospect of receiving non-pecuniary awards in terms of prestige, reputation, and media attention. However, some studies argue that specific CEO compensation contracts may incentivize even non-overconfident CEOs to engage in such takeover activity.

According to agency theory, management compensation contracts should reduce managerial opportunism by aligning management and shareholder interests (Shleifer and Vishny, 1989). One way of achieving this is by linking management compensation contracts to firm performance through equity-based compensation. If equity-based compensation is high enough, this should deter managers to make poor acquisitions through the negative effect on their long-run wealth. Datta, Iskandar-Datta, and Raman (2001) do indeed find that in the US a higher level of equity-based compensation is associated with positive short- and long-run returns and that firms with low equity-based CEO compensation underperform matched control firms by 23%, as their executives are less incentivised to increase firm value (Table 2). For a sample of European bidders, Feito-Ruiz and Renneboog (2017) similarly report that CEOs who receive high levels of equity-based compensation pay lower premiums for target firms and earn higher short-run announcement returns, but also undertake more risky investments. As stock option-based compensation motivates managers to take on projects that maximize shareholder value (because any proceeds or losses will be shared between shareholders and top management), bidder shareholders put a higher expected value (CAR) on deals by CEOs with this type of compensation contract.<sup>11</sup> When calculating 'excess' compensation by subtracting normal or expected CEO pay (estimated based on CEO traits, firm attributes, industry, country, and the year of pay) from actual CEO pay, the authors show that excess compensation negatively affects the acquirer's stock valuation at the takeover announcement. Excessively high levels of CEO compensation can therefore blur managerial corporate investment judgments, and may constitute an agency problem or be indicative of weak governance in general.

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<sup>11</sup> Pikulina and Renneboog (2015) confirm these findings but point out that the relation between equity-based compensation and expected performance is eroded for firms in which there are major corporate blockholders. This is consistent with a substitute effect between the monitoring role of concentrated ownership (held by corporations) and the self-regulatory role of equity-based compensation.



In addition, some studies argue that providing performance-based compensation contracts may not be sufficient to discourage managers from undertaking value-destroying takeovers if the performance criteria leading to higher pay include firm growth through acquisitions as a component (Bebchuk and Grinstein, 2005). Harford and Li (2007) provide evidence that post-acquisition CEO wealth increases irrespective of whether the deal created or destroyed firm value. They find that even if post-acquisition firm value decreases, the resulting decreases in the CEO's existing wealth portfolio is often offset through new equity-based grants such as stocks or options, making the CEO's compensation unaffected by poor stock performance.

An alternative to equity-based compensation is therefore to provide CEO's with debt-like compensation structures, such as pension benefits or deferred compensation packages, as these better align manager interests with those of external debtholders and should therefore reduce risky actions. Phan (2014) confirms that higher inside debt holdings by CEOs result in less risky M&A deals, evidenced by higher bond returns at the M&A announcement and better long-run operating performance (but lower short-run stock returns). Even in the absence of equity-based or debt-like compensation contracts, Lehn and Zhao (2006) argue that the possibility of being fired as a CEO or the likelihood of incurring other personal costs should be at least as strong an incentive to avoid making value-destroying acquisitions. They report that although US CEOs engaging in value-destroying acquisitions are more likely to be replaced, announcement returns and long-term stock returns of firms that replace their CEOs after a bad acquisition are negative and much lower than those for firms that do not replace their CEOs. Similarly, Lin, Officer, and Zhou (2011) investigate the effect of liability insurance coverage, protecting CEOs against fines and other personal liabilities, for a sample of Canadian acquirers. They find that acquirers whose executives have more liability insurance coverage have significantly worse announcement returns, long-term ROA, and asset turnover performance.

Overall, the evidence on CEO compensation contracts indicates that higher equity-based compensation improves short- and long-run stock performance by aligning management and shareholder interests. One concern may however be that all of the long-run evidence is based on stock BHARs; little can therefore be said about the robustness of these results when using e.g. CTARs or CTPRs, or about the effects on long-run operating performance. Studies investigating alternative contracts (that e.g. align management and debtholder interests, or that increase managers' personal costs) do consistently find improved long-run operating performance, but short-run evidence is mixed in that debt-like compensation and liability insurance reduce announcement stock returns, whereas CEO retention after a bad acquisition increases short-run CARs.

[Insert Table 2 about here]

### ***4.3 CEO and director connections and networks***

Since the early 2010s, a growing number of studies have investigated how social and professional connections of board members and executives can affect the firm's decision-making processes, including those related to mergers and acquisitions. Networks can be established based on professional connections, e.g. by being on the same board of directors, or social ties, e.g. by graduating from the same university or college, or through common interests (sports, charities), or club memberships. The effect of well-connected directors/firms on M&A performance can be twofold: professional and social networks enable connected CEOs and directors to get easier and less costly access to information which can improve decision making (Fracassi, 2017; Wu, 2011) and facilitate the search for profitable targets (Renneboog and Zhao, 2014), but they may also reflect managerial power that entrenches managers when they engage in value-destroying behaviour (El-Khatib et al., 2015).

In line with the information-gathering hypothesis, Cai and Sevilir (2012) report evidence for a sample of US deals that long-run ROA increases for deals with a first-degree (directly linked) common director between target and acquirer relative to second-degree (indirectly linked) connected deals and non-connected deals. This finding partly echoes the higher (but insignificant) short-run returns for first-degree connected deals. For a sample of UK firms, Renneboog and Zhao (2014) also find that deals between connected firms are more likely to be completed, that the negotiations are completed faster, and that these deals are more likely to be financed with equity, which may reflect trust between the parties. However, they find no significant announcement effect in bidder share prices. While most studies consider only CEO and board connections, Dhaliwal et al. (2016) focus on connections through common auditors and discover that deals involving parties with the same auditor transfer part of the negotiation power to the bidding firm, which is reflected in the higher returns for acquirer shareholders and lower returns for target shareholders.

Chikh and Filbien (2011) do not focus on acquirer-target connections, but consider the CEO's educational ties. They find that well-connected CEOs are more likely to complete a deal, even in the wake of negative market reactions, and that the merged firms achieve higher long-run stock returns than firms that abandoned negotiations. In a related study, Wang and Yin (2018) find that CEOs are more likely to acquire targets in states where they obtained their undergraduate or graduate degrees and that these deals also earn higher short-run stock returns. Although these results are not sustained in terms of long-run operating performance, they suggest that CEOs may have an informational advantage for targets in their education state.

In contrast to the information-gathering hypothesis in which connections result in better decision making and better target selection, Renneboog and Zhao (2014) argue that connections may also have a dark side in the sense that they may only reflect past performance and do not necessarily have any bearing on future corporate (takeover) performance. They may then reflect managerial power or even hubris which insulates managers from being fired when the firm performs badly or when value-destroying acquisitions are made. El-Khatib, Fogel, and Jandik (2015) do indeed find that high CEO network centrality, which measures the extent and strength of a CEO's professional connections, results in lower acquirer announcement returns. Ishii and Xuan (2014) investigate educational and professional ties between executives and directors in acquiring and target firms, and also find evidence supporting the inefficient retention of the target's management and board in well-connected firms. They find that mergers of two strongly connected firms show a decrease in short-run returns and post-acquisition ROA and an increase in the likelihood of divestiture following disappointing deal performance. Similarly, Wu (2011) and Rousseau and Stroup (2015) report negative announcement effects in deals with interlocked board directors, but no significant evidence is found for long-run operating performance, except for firms with strong corporate governance.

The latter finding by Wu (2011) suggests that whether professional and social board connections are ultimately good or bad for deal performance may depend on the firm's individual needs. Consistent with this idea, Schmidt (2015) finds that bidders with boards that are socially connected to the CEO earn positive short- and long-run stock returns in firms where the potential value of board advice is high, but that returns are negative when monitoring needs are high.

We can conclude that both the information-gathering hypothesis and the entrenchment hypothesis receive strong support in the literature, particularly when considering short-run announcement CARs and long-run operating performance. Evidence for long-run stock returns however is inconsistent at best with only two papers out of ten investigating this type of stock performance (Table 3). Overall, there appears to be a strong firm-specific component in how networks and connections affect deal performance that causes one of the two effects to dominate, as they may only improve deal success when firms can benefit from board advice or when governance is strong.

[Insert Table 3 about here]

#### **4.4 Board characteristics**

##### *4.4.1 Board busyness and multiple directorships*

The previous section has pointed out that well-connected CEOs or board members may negatively affect merger performance by acting as a substitute for active information collection or by entrenching hubris-affected managers. In addition, well-connected non-executive board members who hold directorships in multiple firms may be too busy to fulfil their monitoring and advisory role effectively, while well-connected executive directors may not spend sufficient time managing their own company. Although an early US study by Brown and Maloney (1999) reports that directors with multiple directorships are more reputable and therefore positively affect short-run announcement returns, more recent evidence by Ahn, Jiraporn, and Kim (2010) shows that multiple directorships (by bidding firm directors) decreases short-run announcement returns and long-run operating performance once the number of outside board seats exceeds a certain threshold. Similarly, Hauser (2018) focuses on M&A deals that terminate the entire target board, and finds that this action increases the target's profitability and Tobin's Q, especially when monitoring is harder because directors are located far from the firm's headquarters. On the other hand, Dahya, Golubov, Petmezas, and Travlos (2016), confirm the reputational effect of outside directors' presence on the acquirer board by using government-mandated increases in the fraction of outside directors on boards of UK firms. They find that, in public deals, outside directors' reputational exposure increases both short-run stock returns and long-run deal performance.

The evidence on multiple directorships indicates that the reputational effect of having outside directors and directors with multiple directorships improves short-run stock performance and long-run profitability, as long as directors are not limited in their monitoring and advisory roles due to excessive busyness or geographical distance. There is however little to no evidence on how board busyness affects long-run stock returns.

##### *4.4.2 Board composition*

Other studies have identified additional characteristics of boards and board members (other than busyness or reputation) that may affect merger performance. Consistent with potential conflicts of interest between shareholders and creditors, Hilscher and Sisli-Ciamarra (2013) find that announcement returns and overall firm value around an acquisition are lower when a creditor is represented on the board, but the authors fail to examine the long-run performance effects. Guner, Malmendier, and Tate (2008) and Huang, Jiang, Lie, and Yang (2014) investigate the effect of having investment bankers on the board. Whereas the former study finds that acquisitions by firms with investment bankers on the board realize lower short- and long-run stock returns, the latter study reports that directors with investment banking experience increase short-run announcement returns and long-run operating performance. Consequently, Guner et al. (2008) conclude that investment bankers do not necessarily act in the interest of shareholders due to conflicts of interest with their other affiliations. Huang et al. (2014) add to this and state that, in the absence of conflicts of interests, investment banker directors increase deal performance by identifying suitable merger targets, providing advice on negotiating better takeover prices, and by lowering advisory fees.<sup>12</sup>

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<sup>12</sup> Masulis and Krishnan (2013) similarly find that when acquirers hire a top-tier M&A law firm in the takeover process, the deal completion rates as well as the bid premiums are higher. Bid premiums are also higher when targets hire top law firms, but deal completion rates are significantly lower. These results imply that bidder law firms facilitate deal completions, whereas target law

Huang and Kisgen (2013) examine the presence of female directors on the acquirer's corporate board. They use a difference-in-difference analysis to investigate the effect of the executive directors' gender on acquirer returns for a sample of large publicly listed firms in which male executives were replaced by female ones. They find that acquirer announcement returns are 2% higher for deals conducted by female executives relative to the ones led by male executives. Although the effects on long-run stock return and operating performance are insignificant, there is some evidence that male executives are more likely to go for empire-building and suffer from overconfidence, which results in more value-destroying acquisitions.<sup>13</sup> Levi, Li, and Zhang (2014) confirm this by showing that the presence of female directors on the acquirer's corporate board reduces the firm's acquisitiveness as female directors are less likely to overestimate merger gains. They find that independent female non-executive directors are associated with offering lower bid premiums (and hence lower target returns), but this effect does not hold for dependent (executive or family-related) female directors. It is important to point out that the authors are not able to make any causal statements due to endogeneity between appointing female directors and firm performance.

Whereas the majority of studies only study the impact of characteristics of the acquirer's CEO or board on the takeover process, a few turn to the targets' executives (Table 4). Wulf and Singh (2011) argue that M&A deals can create value by retaining the target's valuable human capital (e.g. the target's CEO). Although they do not directly investigate deal performance, the authors report that target CEO retention is more likely when the acquirer can offer sufficient managerial discretion and when the target's pre-merger performance is higher. Jenter and Lewellen (2015) argue that, if the CEO is close to retirement age, his private merger costs may be much lower, making him more willing to accept takeover offers that might not be value-optimizing. However, they reveal that takeover premiums and target and bidder short-run returns are not significantly affected by the target CEO being close to retirement age.

Custodio and Metzger (2013) focus on the acquirer CEO's experience in the target's industry and find that target industry experience increases acquirer announcement returns as this makes the acquirer a better negotiator and consequently enhances its ability to capture more of the deal's surplus. However, these results do not persist in the long run, as long-run performance is not affected by a CEO's experience. Field and Mkrtchyan (2017) focus on directors' acquisition experience and report that not only directors' past acquisition experience affects short- and long-run deal performance, but also the quality of directors' prior acquisitions. The authors demonstrate that firms with higher levels of positive board acquisition experience make better acquisition decisions and are better at integrating the target firm.

Overall, these studies indicate that the target and acquirer CEOs' and board's expertise and experience increases short-run announcement returns and long-run operating performance, and that female executives or board members are less likely to overbid and make value-destroying acquisitions. However, the endogeneity of having female directors complicates the estimation of long-run stock and operating performance; only 1 study in our survey shows insignificant long-run effects for female directors. Other studies show that board members representing a creditor reduce short-run stock returns as wealth

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firms help realize higher takeover premia. Krishnan et al. (2012) documents that deals subject to class action lawsuits are less likely to be completed but, conditional on completion, they earn higher premiums. However, the target short-run CARs for offers subject to litigation versus those that are not, are not significantly different. Neither of these papers investigate long-run deal performance, so it remains an open question as to whether these effects are sustained in the long run. For an overview of the law and economics literature pertaining to shareholder litigation in M&A deals, see e.g. Johnson et al. (2000), Choi et al. (2004), Cox and Thomas (2009), and Thomas and Thompson (2010).

<sup>13</sup> This is consistent with experimental evidence that women are more risk-averse than men (Croson and Gneezy, 2009). Overall however, CEOs are significantly more optimistic and risk-tolerant than non-CEOs (Graham, Harvey, and Puri, 2013).

may be transferred from shareholders to creditors, whereas investment banker directors earn higher short-run and long-run stock returns as well as better long-run operating performance.

[Insert Table 4 about here]

#### 4.5 Corporate culture

When two firms merge and become one entity, corporate cultures and traditions may clash and resistance by employees and other stakeholders may slow down the post-merger integration process. Whereas the finance and economics literature on culture clashes in M&A deals is scarce, the strategy and management literature frequently illustrates post-merger integration frictions by developing theoretical integration models, measuring strategic similarity of merging firms, or analyzing human relations management.<sup>14</sup> Napier (1989) argues that deal performance may be negatively affected by productivity reductions, employee absenteeism, and turnover if employees are concerned about loss of autonomy, organizational identity, job security, or career prospects. Ollie (1994) further shows that the integration process is not only affected by the degree of post-merger consolidation and the extent to which organizational integrity can be retained, but also by the compatibility of administrative practices, management styles, organizational structures, and organizational cultures. Although management can facilitate the integration process by providing leadership and a new identity and common goals for the merged firm, the perception of cultural differences between the bidding and target firm may still negatively affect the bidder's announcement returns (Chatterjee, Lubatkin, Schweiger, and Weber, 1992).<sup>15</sup>

Capturing a firm's culture in an empirically useful variable is not straightforward. A number of papers therefore focus on CSR and social policies as proxies for corporate culture (Table 5). Engaging in a takeover often increases pressure on the firm's existing relations with stakeholders such as employees, suppliers, or customers. Investing in CSR and CSR policies may then reflect the firm's shared values and beliefs and enhance its reputation for remaining committed to implicit contracts with stakeholders (e.g. providing job security for employees or continued service for customers). Deng et al. (2013) find that US deals by high-CSR firms earn higher short- and long-run stock returns and have better long-run profitability relative to those by low-CSR firms, and argue that higher levels of CSR can incentivize stakeholders to contribute more resources and effort to the firm's operations. In a related paper on a global sample, Aktas, de Bodt and Cousin (2011) focus on CSR investment at the target level. They find that announcement returns are higher for deals involving high-CSR targets, and conclude that indirect investment in CSR is also rewarded by the market.

Bereskin, Byun, Officer, and Oh (2018) combine the above two studies and look at CSR similarity between acquirers and targets as a proxy for cultural similarity. For a sample of domestic US deals, they find that higher levels of cultural (CSR) similarity between acquirers and targets increases both short-run stock returns and long-run operating performance. The authors therefore suggest that cultural similarity can reduce post-deal integration costs and increase the likelihood of deal success. Focusing on the importance of employment policies in the integration process, Liang,

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<sup>14</sup> See, for example, Buono, Bowditch, and Lewis (1985) for a bank merger case study, Weber, Shenkar, and Raveh (1996) for a discussion on the difference between national and corporate culture fit, Weber and Camerer (2003) for experimental evidence, Stahl and Voigt (2008) for an overview of the organizational literature, Weber and Fried (2011) for an overview of HR practices on cultural differences, Marks and Mirvis (2011) for an HR framework on cultural fit, Shenkar (2012) for an in-depth analysis of the cultural distance construct, and Bauer and Matzler (2014) for an industry-specific study of cultural fit. None of these papers directly assess short- or long-run returns, however.

<sup>15</sup> In the finance literature, Fiordelisi and Ricci (2013) distinguish competition-, creation-, collaboration- and control-oriented cultures and relate these to CEO turnover and firm performance, but do not investigate the effect on takeover outcomes. The probability of a CEO change is positively influenced by competition- and creation-oriented cultures, but these types of cultures attenuate the relation between firm performance and turnover.

Renneboog, and Vansteenkiste (2018) find that although generous employment policies increase acquirer shareholder returns and long-run operating performance around domestic deals, the inability to reap the benefits from workforce-related incentives abroad reverses this effect in cross-border deals. This effect is driven by the provision of monetary incentives such as bonus plans and health insurance benefits and becomes more important if the acquirer is in a highly skilled industry. Acquisition experience in the target's country, weak unions, and weak social security laws in the target's country can however off-set the negative effect in cross-border deals.

The finance literature on the effect of corporate culture on deal success is relatively limited given the difficulties in empirically measuring corporate culture. Nevertheless, both managerial theory papers and recent empirical work indicate that specific shared values (e.g. a focus on CSR) can increase shareholder returns, and that cultural similarity is an important determinant for both short- and long-run deal performance. These conclusions confirm more established findings in other strands of the literature which show that firms' similarity (regardless of whether similarity is measured in terms of country or corporate culture, industry, or product market relatedness) is a key driver for deal success and long-run performance.

[Insert Table 5 about here]

#### **4.6 Ownership structure**

An important factor driving both M&A likelihood and deal performance is the composition and degree of concentration of a firm's ownership. Whereas the degree of ownership concentration may reflect the degree of investor protection created by the legal and institutional environment (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998), reactions towards takeovers may also vary significantly by the type of owner as different ownership categories may have widely different personal objectives and interests. A large and growing strand of the literature therefore considers not only the degree of ownership concentration but also the distribution of equity stakes across different types of shareholders (Table 6).

[Insert Table 6 about here]

##### **4.6.1 Family ownership**

Around the world, a large fraction of publicly listed firms have concentrated ownership in the form of a dominant owner, that is in many cases a (founding) family.<sup>16</sup> It therefore remains an important question whether family firms are better at making takeover decisions than widely held corporations, especially in a global context. Although studies based on global samples are limited, a considerable number of papers investigates family firms in a single country setting. For the US, Bauguess and Stegemoller (2008) find significantly negative announcement CARs for acquisitions by S&P500 family firms, but they discover that these negative effects are alleviated if the bidding firm has a large board or more insiders. Basu, Dimitrova, and Paeglis (2009) also investigate US deals and report that the effect of family ownership on M&A value creation depends on the level of ownership: low levels of family ownership negatively affect short-run stock returns as such families avoid stock as a method of payment in order to avoid dilution. High levels of family ownership however are more likely to align family interests with those of minority shareholders as it reduces the incentives to seek personal benefits, resulting in higher announcement returns. Indeed, with average family ownership in Japanese listed family firms compromising around 17% of shares, lower than the 28% turning point at which the sign flips in Basu et al. (2009), Shim and Okamuro (2011) report that family firms' long-run operating performance is significantly lower than that of non-family firms. In contrast, for a sample of Canadian public family firms with average family ownership rates of 28%, Ben-Amar

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<sup>16</sup> La Porta et al. (1999) report that 50% of all large public firms worldwide are family-controlled. Although family ownership mostly predominates in continental Europe, Anderson and Reeb (2003) still report that 16% of S&P500 firms are managed by the founding family.

and André (2006) find significantly higher acquirer announcement returns, that increase are even higher for firms where the acquirer's CEO is a member of the controlling family. For continental Europe, Caprio, Croci, and Del Giudice (2011) do not find significant evidence that acquisitions by family-controlled firms affect short-run returns.

Although long-run results on the implications of family ownership on deal performance are limited, short-run evidence indicates that the ultimate effect depends on the level of family ownership. The relationship between family ownership and announcement returns appears negative at low levels of ownership and becomes positive at higher family ownership levels. The link between family ownership and M&A performance may however still vary across countries, as evidence based on global samples is scarce.

#### *4.6.2 Managerial ownership*

As predicted by agency theory, managerial ownership should have a beneficial effect on merger performance as it aligns the interests of management and shareholders. As is the case for family ownership, empirical evidence suggests that the relation is non-linear as it depends on the ownership level. Hubbard and Palia (1995) find that returns are generally highest at moderate (between 5% and 25%) levels of ownership: at lower ownership levels, agency costs such as perquisite consumption reduce returns, whereas at higher levels of managerial ownership, beneficial risk-increasing strategies are replaced by non-value-maximizing risk-reducing strategies as managers become more risk-averse. Misalignment of interests therefore results in inefficient takeover decisions and negative announcement returns at managerial ownership levels that are either too high or too low. Wright et al. (2002) similarly report a non-linear relationship between CEO stock ownership and announcement returns: whereas lower level of CEO ownership increase returns, higher levels decrease short-run returns. In line with these findings, but in contrast with Hubbard and Palia (1995)'s argument, Schneider and Spalt (2017a) suggest a gambling channel through which CEOs with high ownership are more likely to acquire riskier (high idiosyncratic stock volatility) targets. They find that takeovers involving risky targets perform worse in the short and in the long run, with a 1% decrease in ROA in the year after the deal announcement for a one standard deviation change in target risk. They argue that CEOs do not consciously make bad decisions for shareholders, but tend to go with their guts and systematically make mistakes.

Evidence on the effects of managerial and CEO ownership on deal performance is relatively consistent in predicting that too high – and potentially too low – levels of managerial ownership negatively affect announcement returns and operating performance. Long-run stock return evidence is limited, with no studies in our survey investigating stock return performance over longer event windows.

#### *4.6.3 Institutional investors and shareholder activism*

There is a broad literature on how the type or degree of ownership concentration affects M&A performance, and a large set of recent papers have focused specifically on the role of institutional investors and shareholder activism. Most explanations for M&A transactions' generally poor performance are based on agency conflicts between management and shareholders, or on behavioural issues such as CEO overconfidence. Becht, Polo, and Rossi (2016) however argue that shareholder voting can both reduce agency conflicts and deter CEOs from making overconfident decisions: value-destroying transactions will not be supported in a shareholder vote, such that in equilibrium undesirable proposals will never reach the voting stage. They state that although endogeneity concerns complicate testing the effect of shareholder voting on deal performance in the US (where voting is not mandatory), UK listing rules require shareholder voting for sufficiently large acquisitions. Based on a regression discontinuity design (RDD), the authors find that shareholder voting results in higher announcement

returns (both in percentage and in dollar terms) and conclude that voting is an effective deterrent for managers to undertake value-destroying deals.

For the US, Li, Liu, and Wu (2018) address endogeneity concerns by focusing on all-stock deals, as US listing rules require shareholder voting for deals in which the acquirer issues more than 20% of new shares. Using an RDD based on the distance to the 20% threshold, the authors find that institutional investors' presence reduces the acquirer management's propensity to bypass shareholder voting when engaging in a takeover. They find, consistent with the UK evidence, that acquirers make better takeover decisions and acquire targets with greater synergies by involving shareholders in the decision-making process, resulting in better short- and long-run performance. Although shareholder voting therefore offers a channel through which institutional investors can increase deal performance, Kempf, Manconi, and Spalt (2017) show that temporary reduced monitoring by "distracted" institutional shareholders – defined as institutional shareholders that experience shocks to unrelated parts of their portfolio – results in worse deals that have lower announcement returns and lower long-run stock performance, indicating that managers take advantage of investors' reduced monitoring.

Investors (and institutional investors in particular) can further be differentiated based on their investment horizons. Short-term investors have few incentives to monitor management's decision making as they have less time to learn about the firm. As the benefits of monitoring may take time to be impounded in share prices, short-term investors are therefore less likely to monitor and improve deal performance, whereas long-term investors have stronger incentives to monitor. Investor horizons are hard to identify for retail investors, which is why the empirical research is limited to analyses of institutional investors' horizons. Gaspar, Massa, and Matos (2005) and Chen, Harford, and Li (2007) demonstrate that monitoring by long-term institutional investors reduces management-shareholder agency conflicts, such that acquirer announcement returns, long-term post-acquisition stock returns, and long-term operating performance are significantly higher when long-horizon investors are present. Moreover, these firms are also less likely to announce deals with the worst returns, but if announcement returns are indeed poor, firms with long-horizon institutional investors are more likely to withdraw their bids.

In addition to institutional investors' monitoring and advisory skills that affect deal performance, Nain and Yao (2013) argue that institutional investors such as mutual funds also have superior stock picking skills and show that, even when controlling for monitoring, measures of stock selection skills can predict an acquirer's post-merger performance. In contrast to the previous studies that investigated ownership at the acquirer level, Boyson, Gantchev, and Shivdasani (2017) investigate the presence of activist hedge funds in the target firm. They find that takeovers of activism targets where the bidder is the activist incur significantly more negative short- and long-run returns than deals with a third-party bidder. However, targets that were subject to a failed takeover bid by an activist shareholder earn higher long-run stock returns and generate higher operating performance relative to activism targets that did not receive a takeover bid.

Overall, evidence on institutional investors and shareholder activism consistently indicates that shareholder intervention in the form of voting or activism, particularly by institutional investors, improves short- and long-run stock and operating performance. In addition, long-term institutional investors' monitoring and advisory skills also positively affect long-run stock and operating performance (regardless of whether stock returns are measured based on CTPRs, CTARs, or BHARs), provided they are not distracted by shocks to other parts of their portfolios; short-run returns show mixed results.

#### **4.7 Cultural distance**



In the period 1986 to 2000, the share of cross-border mergers and acquisitions accounted for 26% of the total global acquisition value (Conn et al., 2005). More recently however, this share sharply increased to 45% in 2007 (Erel, Liao, and Weisbach, 2012) and more than 50% in 2016, with some individual transaction values exceeding that of a small country's GDP.<sup>17</sup> Cross-border mergers enable firms to access new markets and benefit from economies of scale and scope, but they also complicate the integration process due to institutional, regulatory, and cultural differences across countries. A number of recent studies have focused on the effect of cross-country differences in cultures, norms, and values on M&A performance. Theoretically, cultural differences can create opportunities by enabling knowledge transfers and exposing the firm to new practices and techniques (Morosini, Shane, and Singh, 1998; Chakrabarti et al., 2008; Sarala and Vaara, 2010; Steigner and Sutton, 2011).<sup>18</sup> They can however also increase social conflicts and induce post-merger coordination difficulties that curb the achievement of synergies (Rahahleh and Wei, 2013; Aybar and Ficici, 2009; Conn et al., 2005; Siegel, Licht, and Schwartz, 2011).

As a consequence, it is not surprising that the short- and long-term takeover returns vary across studies, and results from early studies stress the importance of considering the bidder's and target's country specificities. Datta and Puia (1995) investigate cross-border deals by US acquirers and report decreasing acquirer announcement returns as the cultural distance – measured by means of the Hofstede (1980) dimensions – between the target and acquirer becomes larger. They argue that cultural differences result in inadequate knowledge of the foreign market and overpayment by the bidder which reduces its market value. For Italian acquirers however, Morosini et al. (1998) find that sales growth increases as the cultural distance becomes larger (the authors do not investigate acquirer returns).

Later studies have therefore increasingly used global samples to investigate the effects of cultural distance on M&A performance, but still find mixed results. Chakrabarti et al. (2008) for example show that, on average, acquirer announcement returns decrease as cultural distance increases, whereas Aybar and Ficici (2009) report that, for a sample of emerging-market acquirers, short-run returns increase as cultural distance increases. Rahahleh and Wei (2013) also investigate emerging-market acquirers and find similar results, although they report that the positive effect of cultural distance decreases as acquisition experience increases. Dikova and Sahib (2013) confirm this result for US and European acquirers by demonstrating that the acquirer's stock price increases when cultural distance is large and acquisition experience is higher.

The above studies mostly focus on the acquirer's short-run stock returns. Results from Conn et al. (2005) however indicate that the stock market may, at announcement, not fully anticipate the effect of post-merger integration difficulties arising from cross-country differences. They report that, whereas cross-border deals earn less negative returns than domestic deals in the short run, returns become considerably more negative for cross-border deals relative to domestic deals when considering long-run stock returns based on BHARs or CTARs. Similarly, Gregory and McCorriston (2005) find insignificant results for UK acquirers when investigating short-run returns. For long-run BHARs however, they find that UK acquirers earn significantly negative returns when acquiring US targets, insignificant returns when acquiring EU targets, and even positive returns when acquiring targets elsewhere. Long-run studies with a focus on cultural differences are scarce: Ahern, Daminelli, and Fracassi (2015) consider differences in trust and individualism, and although they find some short-

<sup>17</sup> For example, the 2016 deal between the German drug company Bayer and US-based Monsanto was valued at \$66 billion, which Bayer clinched with improved \$66 billion bid, exceeding the 2015 GDP of Luxembourg (\$57.8 billion), *Source*: Reuters, Sep. 15th 2016. <http://www.reuters.com/article/us-monsanto-m-a-bayer-deal-idUSKCN11K128>

<sup>18</sup> We will here discuss the main findings in the finance literature; for an overview in the management literature, see Stahl and Voigt (2008).

run evidence that mergers between firms in culturally closer countries result in higher combined announcement effects, there is no consistent significant effect on long-run stock returns. Other studies consider the effect of country cultures on M&A intensity (Chan and Cheung, 2015) and merger premiums (Lim, Makhija, and Shenkar, 2016), but they do not relate cultural distance to long-run deal performance.

A different set of long-run studies focuses on cultural differences in the context of innovation and high-tech firms, as cultural distance may encourage the transfer of knowledge between firms (Sarala and Vaara, 2009): Reus and Lamont (2009) for example find that although higher cultural distance negatively affects long-run BHARs on average, the effect becomes positive in the case of acquisitions by high-tech firms or firms with a high level of intangible assets. Steigner and Sutton (2011) confirm this and report that although long-run returns are negative in deals with a large cultural distance, CTPRs and operating profitability increase if the acquirer has a high level of R&D. These studies therefore indicate that cultural distance can increase long-run deal performance if acquirers can benefit from learning opportunities and sharing of knowledge, as is the case for high-tech and R&D-intensive firms.

The literature on cultural distance in M&A transactions has shown that the dominance of the positive effect of learning opportunities or the negative effect of integration frictions on M&A performance depends on factors such as target and acquirer country characteristics, acquisition experience, and the acquirer's R&D and technology levels (Table 7). Most short- and long-run stock return evidence suggests that announcement returns, CTPRs, and BHARs decrease as cultural distance increases. The short-run effect however reverses for deals involving emerging-market acquirers and becomes stronger as acquisition experience is lower. Long-run stock returns on the other hand increase with cultural distance for deals involving high-tech or R&D-intensive acquirers, as these can benefit more easily from learning opportunities and knowledge transfers between the target and acquiring firm. Despite the large number of studies investigating cultural distance, long-run operating performance evidence is limited with only two studies out of 12 reporting return on sales or sales growth results.

[Insert Table 7 about here]

#### ***4.8 Geographical distance***

The post-merger integration process is not only affected by the cultural distance between the two merging parties, also geographical distance can create integration frictions. Geographic proximity has some obvious benefits as acquirers can obtain information more easily about geographically closer targets. Uysal et al. (2008) report that announcement returns are higher when targets are located closerby, although Stroup (2014) reports that the relative informational disadvantage for foreign acquirers declines with a CEO's cross-border acquisition experience. The informational effect is documented not only for takeover deals, but also for divestitures: Landier, Nair, and Wulf (2009) shows that divesting firms' one- and three-month CARs are significantly higher when firms divest in-state divisions relative to when they divest out-of-state divisions.

Geographic proximity can also induce disadvantages: Grote and Ueber (2007) argue that geographic proximity can create psychological illusions, such as the illusion of control due to local networks, or the illusion of managerial private benefits due to an increasing local status. They find that such "proximity-related overconfidence" results in overpayment and hence negative bidder returns.

Three out of four studies in our survey support the informational benefits hypothesis of geographic proximity, indicating that geographical distance may create informational frictions that result in worse deal performance (Table 8). It is however important to point out that none of the studies in our survey investigate long-run stock or operating performance, making it difficult to draw conclusions on the overall value-creating or value-destroying effects of geographical distance.

[Insert Table 8 about here]

#### ***4.9 Spillovers in corporate governance and investor protection***

Although cross-border M&A transactions can complicate the creation and realization of synergies, they can also create additional sources of synergies. In deals where bidder and target are subject to cross-country differences in corporate governance regulation and investor protection, spillovers in governance standards can benefit both bidder and target shareholders as well as bondholders. Bidder shareholders benefit in cross-border deals when the bidder's corporate governance standards are stricter (more shareholder-oriented) than the target's as this facilitates the bidder to shift the target's focus to shareholder value creation rather than private managerial benefits. Indeed, Capron and Guillen (2009) show that stronger shareholder rights in the acquirer's country facilitate target restructuring and resource deployment between acquirer and target in the post-merger integration process. Although most studies focus on country-level spillovers in governance standards, Wang and Xie (2009) also find positive wealth effects when considering acquirer-target differences in firm corporate governance index levels. Governance spillovers from acquirers to targets positively affect deal performance in a wide variety of settings: they increase short-run stock returns as well as long-run operating performance (see Starks and Wei (2013) and Martynova and Renneboog (2008b) for short-run evidence, and Wang and Xie (2009) for evidence on short-run stock returns and long-run operating performance), and this evidence holds in a domestic US as well as in an international context (see Martynova and Renneboog (2008b) for intra-European deals and Wang and Xie (2009) for US deals).

Not only acquirer shareholders, but also target shareholders benefit from differences in shareholder protection, indicating that merger synergies resulting from governance spillovers are shared between the two parties. For a global sample, Bris and Cabolis (2008) report higher target BHARs if shareholder protection is higher in the acquirer's relative to the target's country, but lower returns if the target country's shareholder protection is higher than that in the acquirer's country. Martynova and Renneboog (2008b) confirm the former results for a sample of EU deals and report higher target CARs if governance standards are stricter in the acquirer's country. Similarly, Wang and Xie (2009) report higher target returns when measuring governance spillovers at the firm level, rather than at the country level, for a sample of domestic US deals. Albuquerque, Brandao-Marques, Ferreira, and Matos (2018) even find that spillovers in investor protection can increase the valuations of non-target firms in the target's country. John, Freund, Nguyen, and Vasudevan (2010) confirm the latter result for acquirer returns, and show that, in line with Bris and Cabolis (2008), deals involving targets from strong shareholder protection countries earn lower acquirer CARs than those from weaker shareholder protection countries.<sup>19</sup>

Not only differences in the level of shareholder protection can induce spillover effects, acquirer stock and bond returns can also be affected by creditor rights protection and employee rights protection. Dessaint et al. (2017) show that a higher level of employee rights protection in the target country reduces acquirer returns, and Capron and Guillen (2009) confirm that this reduces the level of target restructuring and resource deployment between the two firms. Kuipers et al. (2009) show that a higher level of creditor rights protection in the acquirer country also negatively affects acquirer announcement returns; Renneboog et al. (2017) however find that stronger creditor protection in the target's country

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<sup>19</sup> As discussed in the previous sections of this survey, poor governance at the acquiring firm generally results in worse short- and long-run performance, even after controlling for country-level differences in governance standards. More specifically, see Section 4.1 on serial acquirers and CEO overconfidence, Section 4.2 on CEO compensation, Section 4.3 on CEO and director networks, Section 4.4 on board and director busyness, and Section 4.6 on firm ownership structure.

increases acquirer bondholder returns, as multinational insolvency regulations allow creditors to start main insolvency proceedings under such a jurisdiction.

Overall, global evidence on governance spillovers in cross-border deals indicates that both acquirer and target shareholders benefit from deals where the acquirer's country has stronger shareholder protection than the target's. In contrast, deals in which the target's country has stronger shareholder or employee rights protection than the acquirer's country and deals with stronger creditor rights in the acquirer's country reduce acquirers' short-run stock performance. Positive short-run bond returns for the acquirer's creditors arise when creditor rights are stronger in the acquirer's country in cross-border acquisitions. Most papers investigate short-run acquirer and target announcement returns, but there is some evidence that positive spillovers from the acquirer's to the target's country also improve long-run operating performance. These studies are scarce however with only one study out of 10 investigating long-run accounting performance, and none addressing long-run stock returns (Table 9).

[Insert Table 9 about here]

#### **4.10 Political economics**

Cross-border takeovers are subject to differences in national and corporate cultures, geographical distance, and governance standards, but in some cases corporate M&A policies are also affected by state- or country-level politics. Politically connected firms are prevalent around the world (Brockman, Rui, and Zou, 2013), with government officials sitting on boards or even serving as executives. Although political connections can deliver advantages by relaxing anti-trust standards, providing access to sensitive information, or facilitating government opposition to unsolicited bids or passage of business combination statutes, they can also impose additional costs on the firm by encouraging value-destroying takeovers or by discouraging profitable deals that are politically sensitive.

The ultimate effect of political board or management connections on merger performance seems to depend strongly on the institutional framework. Based on a global sample of politically connected firms in 22 countries, Brockman et al. (2013) show that important political factors are the strength of the legal system and the level of corruption: politically connected bidders earn 15% lower long-run abnormal stock returns relative to unconnected bidders when the corruption level is low and a strong legal system is in place. When legal systems are weak and or corruption levels are high however, politically connected bidders outperform their unconnected peers by 20%. Moreover, the influence of politics is not just prevalent through politically connected managers, but also through government influence via non-executive directors, even when the government only owns a minority equity stake. Jory and Ngo (2014) find that firms acquiring state-owned enterprises (SOEs) perform worse in the short- and long-run relative to non-SOE acquirers, but these effects are attenuated for firms located in countries with an underdeveloped legal base and rule of law, strong barriers to trade, or underdeveloped financial markets, as the state then substitutes for a poorly developed economic environment. One reason for the poorer performance of SOEs may be that these firms are investing more in corporate social performance (Hsu, Liang, and Matos, 2018).

Political connections between CEOs and local governments are more common in countries such as China, where CEOs may pursue their own interests to advance their political careers (Liang, Renneboog, and Sun, 2017). Such connections can serve as a buffer against the replacement of top management and increase discretion of management's actions. Indeed, Li and Qian (2013) show that in Chinese target firms with politically connected CEOs, there is less resistance to takeovers, as the target's management may be instructed that an M&A bid should comply with regional or national political targets in terms of employment or strategic alliances. Although Li and Qian (2013) do not investigate

long-run deal performance, Schweizer, Walker, and Zhang (2017) confirm the “political empire building” hypothesis by showing that politically connected CEOs in Chinese firms are more likely to complete a deal, even if these deals earn lower announcement returns and have worse long-run operating performance. Zhou et al. (2015) in contrast highlight the beneficial effects of political connections in SOEs and find that takeover announcements of Chinese target SOEs yield higher bidder announcement returns than transactions involving privately-held target firms. Likewise, when the acquiring firm is an SOE, they also find that long-term stock and operating performance are significantly higher than for privately held acquirers (although short-run CARs are lower).

Although less prevalent than in China, former politicians also serve on boards of US firms. In contrast to most of the Chinese evidence, Ferris, Houston, and Javakhadze (2016) demonstrate that political connections reduce regulatory barriers and provide better information, which results in politically connected acquirers earning less negative announcement returns and outperforming non-connected acquirers in terms of long-run stock returns and operating performance. Regardless of directors’ and management’s political connections, M&A performance may also be affected by the CEO’s political orientation and its effect on corporate decision making. Specifically, Elnahas and Kim (2017) report for the US that although Republican CEOs do not earn differential returns around M&A announcements in the short run, they appear to make less risky and more conservative M&A decisions resulting in 22% higher BHARs in the long run – indicating that the market may not fully anticipate this effect at announcement.

Even when there are no politically connected directors present on the corporate board, state- and country-level governments may still take actions that affect the M&A process. Indeed, Dinc and Erel (2013) show for a sample of EU mergers that nationalist governments deter foreign bids on domestic firms in ‘strategic’ industries and that such interventions result in higher bid premiums and thus more expensive deals. Governments can also affect the M&A process indirectly by increasing general uncertainty about future regulatory and monetary policies. Nguyen and Phan (2017) and Bonaime, Gulen, and Ion (2018) both use an index measuring political, tax code, and fiscal policy uncertainty to show that such regulatory uncertainty reduces firms’ acquisitiveness, although the effects on deal performance are less unambiguous. The former study shows that acquirers also engage in less risky deals with lower premiums and a higher chance of success, resulting in a wealth transfer from target to acquirer shareholders and better short- and long-run acquirer stock returns and operating performance. In contrast, the latter study finds that deal premiums increase in high-uncertainty periods as the deals that are completed under those circumstances are those for which delaying is costly which increases the target’s bargaining power. The authors find no significant effects in terms of short-run announcement returns or long-run operating performance however.

The political economics literature indicates that politics can affect the M&A process through government interventions and regulatory actions, but also through directors’ and management’s political connections (Table 10). The ultimate effect of political connections and state ownership appears to depend on the strength and development of the legal system, with political influence positively affecting short- and long-run stock and operating performance in countries with weaker legal systems, but negatively affecting performance in countries with stronger institutions. Most of the evidence based on China suggests that political connections may induce “political empire building”, resulting in worse short- and long-run deal performance. For the US, politically connected board members improve short- and long-term stock and operating performance. Regulatory uncertainty reduces firms’ acquisitiveness, but the effects on deal performance are mixed, with acquirer returns ranging from strongly positive to insignificant.

[Insert Table 10 about here]

#### 4.11 Industry, human capital, and product market relatedness

While we discussed above how differences in national and corporate cultures affect deal performance, we now turn to other factors that can affect the post-merger integration process, such as the bidder's and target's industry relatedness, product market overlap, human capital relatedness, and strategic compatibility (Table 11).

Theoretically, related or focused acquisitions should have higher returns relative to diversifying mergers because the acquirer is more likely to have the skills and resources required to operate and integrate the target firm (Rhodes-Kropf and Robinson, 2008).<sup>20</sup> Fan and Goyal (2006) confirm for the US that vertical mergers result in significantly larger combined announcement returns relative to diversifying deals. For EU deals, in contrast, Martynova et al. (2007) do not find evidence that long-term operating performance differs between focused and diversifying transactions.<sup>21</sup> In addition, asset complementarity in related deals can decrease business risk by facilitating the post-acquisition integration process and leveraging the acquiring firms' pre-existing resources and strengths in new markets. This is confirmed by Schoar (2002) in a study at the plant-level: firms that acquire plants in unrelated industries experience a subsequent decline in total firm productivity, but acquired plants integrated into an already diversified firm increase their productivity more than plants moving from a diversified firm into a stand-alone firm. Fresard, Hege, and Phillips (2017) investigate industry specialization as a channel for value creation in cross-border, within-industry acquisitions. They uncover that a larger difference in industry specialization between acquirers and targets is related to higher short-run announcement returns and better long-run operating performance. The authors argue that the application of specialized acquirers' local knowledge to less-specialized foreign targets is a channel through which industry relatedness increases takeover performance.

A number of studies define corporate relatedness based on dimensions other than industry relatedness. While most studies on industry diversification are based on industry SIC or NAIC codes, Hoberg and Phillips (2010) argue that these industry classes do not accurately reflect potential asset complementarities. Using textual analysis, they create industries based on a firm's product descriptions. Their findings confirm the superior performance of related mergers, since short-term stock returns, long-term operating profitability, and sales are higher for deals between firms with more product market similarities. Next, Bena and Li (2014) consider relatedness in terms of technological overlap. They find that post-merger innovation output (e.g. patents) increases for deals where there was pre-merger technological overlap between the bidder and target, but they do not study the long-run performance of the deal. Lee, Mauer, and Zu (2018) focus on human capital relatedness and further confirm the idea that bidder and target relatedness contributes to deal success. Measuring relatedness based on individual firms' industry-specific occupation profiles, they find that higher overlap in occupation profiles between bidders and targets results in higher short-run combined returns and better long-run operating performance. However, they also report that product market overlap significantly reduces the above effect, indicating that human capital relatedness is particularly important in deals that do not overlap in terms of product markets. Indeed, the authors demonstrate that employee redundancy and the resulting decrease in employment and salaries is a key driver of the increase in deal

<sup>20</sup> In the 1960s and 1970s, conglomerate mergers exhibited positive abnormal returns to acquirers (Matsusaka, 1993; Hubbard and Palia, 1999) because the internal capital markets of conglomerates made up for poorly functioning national and international capital markets. These effects are no longer observed in studies since the 1980s.

<sup>21</sup> Around the takeover announcement, Martynova and Renneboog (2011b) find that a diversifying bidder's short-term CARs are 3% lower than those of a bidder with a focused takeover policy. The target shareholders subject to a diversifying bid benefit from CARs that are 6% larger than those subject to a focused bid. This evidence along with some of the evidence from the literature on the conglomerate discount (which frowns upon corporate diversification), implies that managers who undertake diversifying takeover transactions overpay for the target and their diversification policy may stem from empire-building intentions.

performance, as firms can lay off low quality duplicate workers and extract wage reductions from the employees that stay on.

Overall, almost all available evidence supports the superior performance of related acquisitions relative to unrelated or diversified acquisitions, regardless of whether relatedness is measured in terms of industry, technology, or human capital overlap, or in terms of product market or supply chain complementariness. However, most evidence is based on short-run announcement returns or long-run operating performance (ROA, ROS, TFP, or sales growth) for the US or Europe; there are no studies in our survey investigating long-run stock returns.

[Insert Table 11 about here]

#### ***4.12 Distressed target acquisitions***

A small but important part of the market for corporate control comprises disciplinary takeovers of poorly performing or financially distressed firms (Franks, Mayer, and Renneboog, 2001). When a US firm becomes financially distressed, it can either voluntarily file for bankruptcy and seek protection against its creditors (Chapter 11), or its creditors can file for bankruptcy in order to liquidate the firm (Chapter 7). In the former case, the debt and equity claims of the distressed firm are likely to be restated following a majority approval by its (classes of) claimants (under supervision of the court), whereas in the latter case, (part of) the firm's assets can be liquidated. While there is considerable empirical evidence on the wealth effects for the sellers of distressed assets, there is much less evidence on the wealth effects for the buyers of such assets. On the one hand, sales of distressed targets below their fundamental value may benefit acquirers as they can purchase the firm at a discount. On the other hand, if acquirers operate in the same industry as the target and if distress occurs at the industry level, this may result in ultimately worse deals and worse overall returns (Shleifer and Vishny, 1992).

Past research mainly focused on the costs associated with fire sales of distressed or bankrupt assets. A number of studies from the 1990s examine acquisitions of bankrupt firms or firms falling under Chapter 11, but the conclusions are mixed given that sample sizes comprise merely 50 cases (at best). For instance, Clark and Ofek (1994) find that acquirers of distressed targets earn significantly negative long-run CARs, whereas Hotchkiss and Mooradian (1998) report positive short-run CARs, but insignificant long-run operating performance.<sup>22</sup>

Although the sample sizes in more recent research are considerably larger, the conclusions remain mixed (Table 12). Jory and Madura (2009) consider acquisitions of bankrupt firms and report positive short-run acquirer announcement returns, although expected returns are not materialized in terms of long-run BHARs. Ang and Mauck (2011) use a less strict definition of “distress” (negative net income) and find contradicting evidence in that acquirers of distressed targets earn negative announcement returns. In line with Jory and Madura (2009) however, they do not find evidence that acquirers benefit from purchasing distressed targets in terms of long-run BHARs or CTPRs. Meier and Servaes (2014) confirm the positive announcement returns for acquirers of distressed targets, but only for the case of acquisitions of selected assets relative to acquisitions of the whole (bankrupt or distressed) firm.<sup>23</sup> Oh (2018) considers distress at the industry level, and finds that targets in distressed industries are sold at discounts to acquirers outside the industry, which yields higher short-

<sup>22</sup> An overview of the extensive literature on takeovers of financially distressed financial institutions is outside of the scope of this study. Banks differ from non-financial firms in terms of regulation, capital structure, and complexity of their operations, and many of our general conclusions are unlikely to hold for financial institutions and banks. We refer the reader to DeYoung, Evanoff, and Molyneux (2009) and de Haan and Vlahu (2015), who provide reviews of the literature on banking M&A transactions.

<sup>23</sup> A theoretical study by Almeida, Campello, and Hackbarth (2011) shows that the acquirers of financially distressed firms are the more liquid firms in their industry, which suggests that even if there are no operational synergies to be realized, the presence of financial synergies could be a trigger to purchase distressed assets.

and long-run stock returns to acquirers taking over firms in distressed industries. The target's rivals however earn negative announcement returns due to a negative information effect that arises from distressed target sales.

Overall, most of the evidence indicates that acquirers of distressed targets experience significant gains in the short run, indicating that bidders can benefit from purchasing distressed targets at a discount. With the exception of deals where distressed targets are acquired by out-of-industry acquirers, evidence on long-run CARs, BHARs, CTPRs, and operating performance is largely insignificant, suggesting that the expected returns at the M&A announcement are usually not materialized over the long run.

[Insert Table 12 about here]

#### ***4.13 Post-merger restructuring and divestitures***

Acquirers sometimes buy target firms with the intention of restructuring the combined firm by selling off specific parts or units. Although the decision to divest or sell-off a unit as part of the post-merger restructuring process is often perceived positively by the market, the stock price reactions may be negative if the divested unit was previously acquired through a takeover as the market then realizes that an earlier acquisition decision was a mistake. Ravenscraft and Scherer (1987) report that a staggering number (33%) of target firms acquired in the 1960s and 1970s were subsequently divested. A similar number is reported for the 1980s, with Grimm's Mergerstat Review (1989) reporting that at least 35% of M&A deals were classified as divestitures. Porter (1987) even documents that for deals by US conglomerate acquirers, more than half were divested. More recently, Netter et al. (2011) report that from 1992 to 2009, 45% of acquiring firms undertook at least one divestiture. Similarly, Maksimovic et al. (2011) find that acquirers eventually sell 27% of their target companies and close 19% of target firms' plants within three years after the acquisition.

While these high divestiture rates could be interpreted as evidence supporting the value-destroying nature of takeovers, other motivations for selling off (parts of) a target firm such as decreasing synergies with the acquirer's core business, changes in antitrust regulations, or technological innovations may in fact improve deal performance (Weston, 1989). An early study by Kaplan and Weisbach (1992) focusing on US deals in the 1970s for example reports a divestiture rate of 44%, but the authors argue that only 34% of these divestitures result from unsuccessful (based on poor operating performance) earlier acquisitions. Indeed, more recent empirical evidence generally supports the value-creating nature of divestitures. Netter et al. (2011) and Owen, Shi, and Yawson (2010) show that the market does not on average react negatively to divestiture announcements: the short-run returns around divestitures by public US firms are positive and amount to 4.4% and 1.57%. Moreover, Netter et al. (2011) further document that when accumulating the abnormal returns from all activities related to the transaction (acquiring a target firm, being a target, and divesting the target), the total short-run return accrues to over 16%.

Maksimovic et al. (2011) consider an alternative approach and use long-term total factor productivity (TFP) of manufacturing plants transferred through acquisitions to measure performance after a divestiture. In line with the idea that divestitures are part of an acquirer's larger restructuring process, they show that plants retained by the acquirer significantly increase their productivity (TFP) and product margins and do so more than the plants sold off after the acquisition. Li (2013) further investigates the post-merger restructuring process and confirms that increases in the acquirer's wealth are mainly driven by improvements in the target's productivity (TFP). Specifically, the study documents that these improvements are induced by reductions in capital expenditures, wages, and employment (while keeping output constant).

Overall, studies on post-merger restructuring indicate that the market does not perceive divestitures as value-destroying (at the announcement) (Table 13). Short-run announcement returns are positive on average, and the accumulated



returns from the initial acquisition to the divestiture may even amount to more than 16%. Although long-run performance studies are scarce, there is some evidence that retained plants significantly improve their productivity and reduce costs more than plants that are sold off, suggesting that the short-run announcement returns reflect that firms may have a post-merger restructuring plan in place when making acquisitions. Given that there are no studies in our survey that investigate other measures of long-run operating performance or long-run stock returns, it is however hard to make statements on the returns to shareholders over the longer term.

[Insert Table 13 about here]

#### ***4.14 Means of payment and sources of financing***

##### ***4.14.1 Method of payment***

The literature on the means of payment distinguishes between cash, equity, and mixed offers. Theory suggests that equity-financed deals should earn significantly lower returns relative to cash-financed deals, as the fact that management opts for equity-financing hints to the market that the firm's stock is overvalued (Myers and Majluf, 1984; Loughran and Vijh, 1997; Mitchell and Stafford, 2000). Indeed, Martynova et al. (2007) report for a sample of European deals that acquirers' long-term operating performance increases by 1% for cash offers and decreases by 1.2% and 1.9% for all-equity and mixed offers, respectively. However, they do not find any statistically significant differences in excess operating performance among the different type of offers. In contrast, Fu, Lin, and Officer (2013) show for the US that overvalued acquirers using stock as means of payment significantly overpay for their targets and that these deals do not create value. The result is much lower bidder announcement returns and long-run operating performance. Using short interest and managers' insider trades as measures of overvaluation, Akbulut (2013) and Ben-David, Drake, and Roulstone (2015) confirm these results and report that strongly mis- or overvalued acquirers are significantly more likely to use stock financing and that these deals earn lower long-run stock returns and lower long-run operating performance relative to cash acquirers and similarly overvalued non-acquirers (although results for short-run returns are mixed).

A growing number of studies however offer alternative explanations for the use of stock financing. Faccio and Masulis (2005) focus on corporate control concerns in a sample of European takeovers where concentrated (family) ownership is prevalent. They find that firms are more likely to choose stock financing if financial constraints increase, while the presence of a large controlling shareholder discourages stock financing as this may lead to dilution of control (as in Section 4.6.1). The authors do not investigate M&A performance measures.<sup>24</sup> Savor and Lu (2009) show for a sample of announced but later withdrawn stock-financed deals that stock-financed deals are not necessarily bad for shareholders, as bidders' long-term shareholders are still better off in a stock deal than they would have been if the firm did not pursue the deal at all.<sup>25</sup> Mortal and Schill (2015) argue that it is firms' past asset growth rates rather than the method of payment that can fully explain the cross-sectional variation in post-deal performance. They find that firms engaging in stock-financed deals tend to be poorly monitored firms with higher asset growth rates, and therefore argue that past asset growth can explain the relation between stock-financing and poor long-run stock performance. Eckbo, Makaew, and Thorburn (2018) relate the means of payment to trust: they find that the fraction of stock financing is higher when targets are better informed about

<sup>24</sup> Other papers such as Boone, Lie, and Liu (2014), Karampatsas, Petmezas, and Travlos (2014), and Huang, Officer, and Powell (2016) also investigate the choice of payment method, but do not analyse short- or long-run performance measures.

<sup>25</sup> Savor and Lu (2009) attribute these findings to bidders' inability to swap their overvalued shares for target shares. However, Humphery-Jenner, Masulis, and Swan (2017) show that target returns are significantly negative for withdrawn deals. The lack of positive returns for target shareholders indicates that loss of synergy gains rather than inability to swap overvalued shares may cause the results in Savor and Lu (2009).

the bidder, consistent with the idea that bidders offer stock when they are concerned about target adverse selection. In addition, they report that the composition of the payment method over time is strongly correlated with the presence of private bidders who exert pressure on public bidders to pay in cash. For a sample of Chinese deals, Yang, Guariglia, and Guo (2017) use an agency cost argument to explain that cash- rather than stock-financed deals underperform in terms of short-run stock and long-run operating performance. They argue that cash deals are more likely to be undertaken by cash-rich firms who have a lower opportunity cost of cash retention and who therefore are less selective in picking target firms such that they engage relatively more in value-destroying deals.

#### *4.14.2 Sources of financing*

Despite the large number of papers investigating the means of payment (cash vs stock), little attention has been given to the sources of these funds. Deals funded by cash resources can be based on internally generated funds or externally generated funds such as bank debt, bonds, other forms of debt, or equity issues. The limited evidence on this topic nevertheless shows consistent results. Bank or debt financing of M&A transactions is generally received positively in the market, most likely because of the monitoring effect of banks and the disciplining effect of debt. Bharadwaj and Shivdasani (2003) suggest that bank debt signals certification of the transaction and monitoring of the acquiring firm, because they find that deals entirely financed by banks achieve strongly positive announcement returns, especially when acquirers are performing poorly or are subject to information asymmetries. Martynova and Renneboog (2009) show that the decision on the offered means of payment (cash vs equity) does not coincide with the decision on how to finance the transaction, with the type of offer depending on how the transaction can be funded. Disentangling the sources of financing from the method of payment, they distinguish between deals financed with internal funds, debt issues, equity issues, or combinations of equity and debt. In line with the overvaluation literature, they demonstrate that acquisitions financed partly or fully with equity perform worse than cash- or debt-financed deals. Internally-funded deals however underperform debt-financed deals, which they believe may be due to managerial empire-building motives in cash-rich firms. The authors find that the majority of large cash-financed deals are financed using newly issued debt as internal funds often do not suffice, and such debt-financed deals outperform other sources of funding in terms of short-run returns. They argue that debt may act as a bonding mechanism which curbs management's free cash flow discretion, but do not investigate long-run deal performance.<sup>26</sup> Uysal (2011) also investigates debt-financed deals and unsurprisingly concludes that overleveraged (relative to the firm's target leverage ratio) acquiring firms are unlikely to take on more debt in order to pay for (part of) the acquisition with cash: deals by overleveraged firms are thus more likely to be financed with equity, resulting in lower returns. The study however fails to find significant evidence for negative long-run CTPRs.

Instead of using debt-financed cash payments as a signalling device, Chatterjee and Yan (2008) consider the use of conditional value rights (CVRs) in combination with stock financing. Similar to a put option, a CVR is a commitment by an acquirer to pay additional cash or stock if the share price of the firm drops below a prespecified level, thereby guaranteeing a minimal payment value to the target shareholders. The authors disclose that stock deals including CVRs earn higher announcement returns than stock-only deals. CVR bidders also perform better in terms of long-run operating performance, but the investigated sample is relatively small (with only 23 deals).

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<sup>26</sup> The authors also report that the relative choice of financing is also explained by the degree of shareholder, minority shareholder, and creditor protection of the bidder's country which directly affects the cost of the capital for each of the providers of funds.

Whether a deal is financed using debt, equity, or internal funds is important not only for shareholders, but also for the firm's creditors and bondholders. On the one hand, debt-financed deals may increase leverage and default risk in the combined firm to the detriment of the firms' incumbent bondholders. On the other hand, those bondholders may benefit from a co-insurance effect arising from the bidder's and target's imperfectly correlated cash-flows. For a sample of US deals in the 1980s and 1990s, Billett, King, and Mauer (2004) find negative acquirer short-run bond returns but positive target bond returns in the 2 months around a merger announcement. Although the authors provide no evidence that returns differ for cash- and stock-financed deals, they do show a co-insurance effect because the results are primarily driven by non-investment grade bonds. For a more recent sample spanning the 2000s and 2010s, Li (2018) compares short-run announcement effects for acquirer stocks and bonds. Consistent with the early literature on the method of payment, acquirer shareholders earn higher returns in cash deals. However, in contrast with Billett et al. (2004), the author also reports that acquirer bondholders earn significantly lower returns in cash-financed deals, consistent a wealth transfer from bondholders to shareholders.

Nevertheless, Billett and Yang (2016) state that firms can use bond tender offers in acquisitions to increase financial flexibility and reduce leverage, and that target bonds subject to tender offers earn 5.08% excess returns in the acquisition announcement month, whereas bonds of firms without a tender offer earn insignificant returns. Finally, for a global sample of cross-border deals, Renneboog, Szilagyi, and Vansteenkiste (2017) report abnormal bond returns of -0.04% for bidders and 0.26% for targets. The authors further find that positive spillovers in creditor protection (in terms of creditor rights and debt enforcement) from the target's to the acquirer's country increase bidder bond returns by 0.07%, and that these results are stronger for riskier firms that are more likely to default.

Despite the large literature investigating the *method of payment* in M&A deals, there is no unambiguous conclusion that can be drawn with regards to the superior performance of cash- versus stock-financed deals. Whereas one strand of the literature finds that stock deals underperform because acquirers use overvalued stock to finance the deal, another strand finds that stock acquirers are not overvalued and may have been worse off had they not engaged in the deal. With both hypotheses receiving support in terms of short-run CARs, long-run BHARs and CTPRs, and long-run operating performance, the jury is still out on which effect dominates.

The literature on the *sources of financing* is more confined (Table 14) and documents that bank and other debt financing embeds a monitoring and disciplining mechanism which positively affects short-run merger returns. There is however also some limited evidence that alternative payment methods such as CVRs can reduce the risk associated with stock payment. Nevertheless, as long-run evidence on the source of financing is scarce, it is yet to be determined whether these effects are also sustained in the long run.

[Insert Table 14 about here]

#### **4.15 Tobin's *Q* and merger waves**

If it is indeed true that stock-financed deals perform worse than cash-financed deals because acquirers use their overvalued stock to finance the transaction, the question remains as to whether deals by high Tobin's *Q* (market-to-book) acquirers perform worse than those by low Tobin's *Q* acquirers. Early empirical evidence indicates that this is not likely the case: Lang, Stulz, and Walkling (1989) and Rau and Vermaelen (1998) report better performance when high Tobin's *Q* firms acquire low Tobin's *Q* targets), and Servaes (1991) argues that low Tobin's *Q* targets are purchased at low prices and hence offer the most upside potential for value creation subsequent to restructuring. In fact, Heron and Lie (2002) even report that

high Tobin's Q acquirers outperform their industry peers in terms of long-run operating performance prior to a takeover deal and continue to outperform after the deal.

More recent studies investigate the effect of firms' market-to-book ratios by focusing on merger waves. Merger waves and increased M&A activity historically occur during booming stock market periods when Tobin's Q ratios are high. In contrast to the early studies, Bouwman, Fuller, and Nain (2009) find that short-run announcement returns may be overestimated, as deals during high-valuation markets earn lower long-term BHARs and CTPRs and generate lower operating performance. The authors find that this type of underperformance occurs mainly in firms that acquire in the final stages of a merger wave and relate this to the managerial herding hypothesis, which states that late acquirers ignore their own private signals about the profitability of a merger and base their decisions on the actions of their peer CEOs who preceded them in entering the M&A market. Similarly, Duchin and Schmidt (2013) confirm that end-of-wave mergers perform worse in terms of long-term stock and operating performance (but not in terms of short-run announcement returns) and find that end-of-wave mergers are undertaken by firms with poor corporate governance. Instead of investigating US samples (as the above studies do), Xu (2017) focuses on cross-border M&A waves in a global setting. In line with some of the US-based evidence for domestic merger waves, in-wave global cross-border deals earn higher short-run CARs relative to out-of-wave deals. Furthermore, in contrast to domestic waves, the study reports that long-run operating performance is also significantly higher for in-wave deals, and that end-of-wave deals perform better than deals at the beginning of the wave. The latter finding is strongest for deals with large cultural, financial, or legal differences between the target's and the acquirer's countries, which suggests the presence of a learning effect through which late entrants learn from early entrants' experiences.

Overall, the recent literature on Tobin's Q and merger waves suggests that the market positively perceives merger announcements of deals made during merger waves or periods with high stock market valuations (Table 15). The results become less consistent when considering long-run performance. Although US-based studies find that long-run BHARs, CTPRs, and operating performance decline in booming stock market periods, evidence on cross-border global merger waves finds that long-run operating performance is significantly higher for in-wave deals.

[Insert Table 15 about here]

## **4.16 Other dimensions**

### **4.16.1 Cross-holdings**

As the returns to acquiring firm shareholders tend to be negative or zero on average, Matvos and Ostrovsky (2008) question why shareholders do not oppose these mergers and hence avoid transactions not generating any value. They reveal that institutional shareholders often hold large stakes in both the bidder and target firm, such that the losses from the acquirers' announcement returns are offset with the gains from the targets'. Harford, Jenter, and Li (2011) argue against this interpretation by showing that the stakes of cross-owners in target firms are not sufficiently large to compensate losses in the acquiring firms, and that the lack of shareholder opposition to value-destroying mergers remains a puzzle. Brooks, Chen, and Zeng (2018) consider more symmetrical cross-owners (i.e. institutional cross-owners are selected if they own at least 1% in both the acquirer and the target or are in the top 10 largest owners in both acquirer and target). They report that such cross-ownership reduces the target's announcement returns, but increases the combined firm announcement returns as well as long-run stock and operating performance, because cross-ownership improves deal quality and monitoring and reduces information asymmetries.

#### 4.16.2 Anti-takeover provisions

As firms that make value-destroying acquisitions are more likely to become a target in an M&A deal themselves (Mitchell and Lehn, 1990), the takeover market can act as a disciplinary mechanism to deter potential empire-building managers from reducing shareholder value through bad acquisitions. However, anti-takeover provisions (ATPs) in large firms can restrict the efficient functioning of the market for corporate control by hindering or considerably delaying the acquisition process. In other words, ATPs increase the scope for managerial entrenchment, which can lead to corporate decisions that are detrimental to shareholders as there is no serious threat to the management of losing de facto control over the corporation. There is strong evidence that a higher degree of entrenchment is related to lower returns and lower firm value (Franks et al., 2001; Gompers, Ishii, and Metrick, 2003; Bebchuk et al., 2009; Bebchuk and Cohen, 2005; Cremers and Nair, 2005; see Straska and Waller (2014) for a survey of this literature).<sup>27</sup> While these studies examine the effect of entrenchment (including ATPs) on overall firm performance, several other studies relate ATPs to M&A returns. Masulis et al. (2007) report that acquiring firms with more ATPs have lower announcement returns, even when controlling for product market competition, leverage, CEO equity-based compensation, institutional ownership, and board composition. Harford et al. (2008) confirm this finding and add that managers of firms with strong ATPs and excess cash (who may be most prone to empire building) have very high capital expenditures and spend their cash on poor acquisitions.

Investigating dual-class shares as a specific type of anti-takeover protection measure, Masulis, Wang, and Xie (2009) further find that acquirers' short-run returns are lower when insiders' control-cash flow divergence widens.<sup>28</sup> Harford, Humphery-Jenner, and Powell (2012) investigate the sources of value-destruction in deals by entrenched managers. They find that entrenched managers avoid making all-equity offers to public firms when a large blockholder is present in the target firm and to private firms even when such deals are value-creating, because such transactions would erode their control position (and reduce the degree of entrenchment). In addition, entrenched managers overpay and tend to choose targets with lower synergies, all resulting in lower short-run announcement returns and post-merger operating performance. Humphery-Jenner and Powell (2011) take an alternative approach: they examine a sample of large acquiring firms in Australia, where ATPs are prohibited. They find that these large acquirers earn positive abnormal announcement returns and that post-takeover operating performance increases with acquirer size. As studies based on similar samples of large US firms on average have negative announcement returns and long-term operating performance, they conclude that the absence of ATPs can promote value-enhancing takeover deals.

In sum, these studies indicate that antitakeover provisions in large firms restrict the disciplining mechanism of the takeover market, resulting in more value-destroying acquisitions, lower overall firm value, and lower merger announcement returns. The absence of these provisions increases both announcement returns and long-run operating performance.

#### 4.16.3 Toeholds and minority equity stakes

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<sup>27</sup> These studies are not further discussed here as they mainly look at the effects of the level of or change in takeover provisions on firm performance, while not considering returns surrounding takeover deals or post-merger deal performance. For further reading, we refer to Liu and Mulherin (2018) who provide an overview of the literature on anti-takeover provisions (including dual-class shares and staggered boards). See also Karpoff and Wittry (2017) who analyse the use of state-level anti-takeover laws for identification, and Karpoff, Schonlau, and Wehrly (2017) who offer new (predetermined geography- and IPO cohort-based) instruments to account for the G- and E-indices' endogenous component when using them as proxies for takeover deterrence.

<sup>28</sup> Other papers have investigated a broad range of other firm-level anti-takeover provisions, such as small-minority controlling shareholders (Bebchuk and Kastiel, 2019) and staggered boards (Karakas and Mohseni, 2018).

A large literature on toeholds shows that bidder announcement returns are on average higher (or less negative) if the bidder owns a toehold in the target prior to making a takeover offer. Toeholds reduce the target's bargaining power as any increase in the target's share price will also partly accrue to the bidder with a toehold, enabling this bidder to purchase control in the target more cheaply (at a lower premium). Betton, Eckbo, and Thorburn (2008) for example report that three-day CARs are -1.2% for non-toehold bidders, relative to -0.15% for toehold bidders. Despite these apparent benefits, toeholds are relatively rare in practice. Betton, Eckbo, and Thorburn (2009) show that the presence of rejection costs creates a toehold threshold below which the optimal toehold is zero, making it optimal for some bidders to approach the target without a toehold. Dinc, Erel, and Liao (2017) identify a different cost to acquiring minority equity stakes in target firms by investigating distressed acquirers' decisions to sell equity stakes in target firms. They find that such fire sales of equity stakes are subject to an average discount of 8%. Nain and Wang (2018) focus on equity stake acquisitions in rival firms and show that decreasing product market competition and increasing profit margins result in positive returns to third-party rival firms, but negative returns to customer firms. Short-run acquirer CARs are however not affected.

Few papers have investigated the long-run consequences for bidding firms' decisions to obtain a toehold or minority equity stake. Vansteenkiste (2019) considers a two-stage acquisition strategy, in which bidding firms obtain a sizeable minority stake in the target before obtaining majority control. Although this is a takeover strategy that is different from the acquisition of a traditional toehold (both in terms of the size of the stake and the timing of the minority acquisition), two-stage deals result in higher long-run operating performance relative to one-stage deals (in which the bidder did not initially purchase a minority stake in the target). However, two-stage acquirers also pay up to 18% more at the majority acquisition, suggesting that acquirers face a trade-off between paying a higher takeover price and making a better informed takeover decision (which is testified by the fact that the second-stage of the takeover is more likely to be completed, is completed faster, and targets are less likely to be divested over the long run).

#### *4.16.4 Run-up and deal anticipation*

A common explanation for the zero or negative short-run returns for acquiring firms is that announcement returns only capture the unanticipated part of the announcement effect. These studies typically argue that a large part of the market's reaction occurring before the deal becomes public due to takeover rumours and trading by insiders (e.g. Schwert (1996), Betzer, Gider, and Limbach (2018)).<sup>29</sup> Although Martynova and Renneboog (2011a) and Cumming and Li (2011) find on average no evidence of acquirer runups, the latter study does identify that runups are significantly lower for deals where the acquirer has higher Tobin's Q, for foreign targets, and for stock-financed deals, but the runups are higher for PE-backed targets. For target runups, a recent study by Betton, Eckbo, Thompson, and Thorburn (2014) finds that the relation between the pre-announcement target run-up and the offer mark-up is not necessarily one-for-one and may even be positive. Indeed, they find that bidder returns are positively correlated with the target's run-up, as CARs increase by 0.10% for every unit increase in target run-up. Although this may imply that bidders pay twice for anticipated takeover synergies – adding the target's run-up and the target's announcement CARs – the authors find that target run-ups do in fact not increase the offer premium. Rather, these runups emit a signal that informs investors about the level of expected takeover synergies and deal values. Similarly, Wang (2018) develops a structural estimation model and shows that after incorporating bid anticipation

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<sup>29</sup> Betzer et al. (2018) find that bidders' financial advisors play an important role in the size of target runups prior to takeover announcements, as they have incentives to either mitigate or deliberately leak their inside information to the market. The authors find evidence for advisor-fixed effects in target runups, and report that past advised deals and location may explain differences in runups.

and pre-announcement information revelation, acquirers gain on average 4% relative to their pre-merger market value. However, this study also finds that the average information revelation effect of -5% when the deal is announced and becomes public offsets this increase, resulting in average CARs of -1%. Unfortunately, none of the above studies investigate long-run performance measures.

#### *4.16.5 Analyst coverage*

Targets in M&A deals typically undergo many changes during and after the restructuring process. These changes not only affect inside parties such as shareholders and management, but also external parties such as analysts. Tehranian, Zhao, and Zhu (2014) investigate whether analyst coverage after a takeover deal reveals information about the deal's future performance. After a deal is completed, target analysts have to decide whether to cover the new merged firm, and they will decide to do so based on their assessment of the deal. The authors find that target analysts choose to retain targets in deals with higher short-run returns, and that more target analysts – but not acquirer analysts – covering the merged firm is correlated with better long-run stock and operating performance. These findings show that target analysts retain coverage of targets in deals that they favourably view upon, and that a higher fraction of remaining target analysts better predicts long-run deal performance.

#### *4.16.6 M&A transactions and IPOs*

Firms often go public in order to facilitate future M&A activity, as 38% of recently listed firms become acquirers and 12% become M&A targets in the three years following the IPO (Anderson, Huang, and Torna, 2017). Brau, Couch, and Sutton (2012) investigate a sample of US IPOs and find that newly listed public firms that acquire within a year of going public underperform over a one- to five-year holding period. Those IPOs generate 3-year abnormal returns of -15.6% whereas non-acquiring IPOs generate a return of 5.9%. Anderson et al. (2017) build on these findings and show that IPO acquirers' underperformance is driven by bidders whose IPO characteristics (e.g. underwriter quality, pricing, proceeds, and ownership structure) are not typically related to future M&A activity.<sup>30</sup>

#### *4.16.7 Strategic versus financial buyers, deal initiation, and sales method*

A growing literature has investigated deal performance by focusing on the type of acquirer, i.e. comparing strategic versus financial and private equity acquirers (Table 16). Although an analysis of the private equity literature is outside of the scope of our survey, that strand of the literature indicates that financial and private equity acquirers target different types of firms and that they value their targets lower on average. Fidrmuc et al. (2012) find that private equity acquirers target firms with more tangible assets, lower market-to-book ratios, and lower R&D expenses, but also that the buyer type depends on the selling mechanism (auction, controlled sale, or negotiation). Nevertheless, they do not find evidence that the choice of selling mechanism or the buyer type affects the deal premium or long-term performance.

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<sup>30</sup> IPOs make up about 10% of VC exits, while acquisitions occur in 20% of VC exits. In contrast with the IPO literature in which venture capitalists (VCs) reduce information asymmetries for their portfolio firms around IPOs, Masulis and Nahata (2011) find that acquirers of VC-backed targets earn higher short-run returns relative to acquirers of non-backed targets, particularly when VC firms have financial ties to the acquirers. Combined with the finding that VC-backed deals receive lower premiums, this is consistent with VC funds ensuring their exit by exerting pressure on target management to accept a lower takeover price.

In contrast, Dittmar et al. (2012) document that strategic acquirers who bid on targets also targeted by financial acquirers outperform those who bid on targets targeted only by strategic acquirers, both in terms of short-run CARs and long-run BHARs.<sup>31</sup> These results are in line with the conclusions from the literature on activist hedge fund acquirers as discussed in Section 4.6.3, where Boyson et al. (2017) demonstrate that failed takeover bids for activism targets earn higher long-run stock returns and result in better operating performance relative to activism targets that did not receive a takeover bid by an activist hedge fund. Gorbenko and Malenko (2014) theoretically and empirically confirm the idea that strategic and financial acquirers target different firms and report that, although strategic bidders value targets on average higher, financial bidders specifically value mature, poorly performing targets more. They conclude that differences in valuation are driven by target and bidder characteristics rather than higher synergy values in deals by strategic bidders, but they do not further investigate deal performance.

In contrast to Fidrmuc et al. (2012), Masulis and Simsir (2018) find that deal premiums are 10% lower in target-initiated deals, and that short-run target returns are also significantly lower. Stressing the importance of controlling for targets self-selecting to initiate a takeover, they find that the difference in premiums between bidder- and target-initiated deals is driven by high information asymmetry deals. They conclude that target deal-initiation signals negative private information to bidders who subsequently reduce their offers. Whether a deal is bidder- or target-initiated is important for the choice of sales method (auctions versus negotiations). In one of the first papers to investigate the method of sales, Boone and Mulherin (2007) find that half of targets are auctioned among multiple bidders, while the other half are sold via single-bidder negotiations, but there are no significant differences in short-run returns between auctions and negotiations. Fidrmuc and Xia (2017) build on the former two studies to investigate how deal initiation and the sales method interact: bidder versus target deal initiation does not affect the premium in formal auctions, but target-initiated deals earn up to 22% lower premiums in informal sales. The latter effect is however mitigated by target CEO ownership: target CEOs with an equity stake negotiate higher premiums.

It should be noted that all of the above results are based on studies on short-run announcement returns. The lack of evidence on long-run stock returns or operating performance does not enable us to make conclusions on the issue of whether these short-run returns are sustained over the long run. We leave it to future research to provide an answer to this question.

[Insert Table 16 about here]

## 5. Conclusion

Despite the vast amounts of money and resources spent on takeovers, many academic studies find that bidder shareholders earn zero or even negative returns at the takeover announcement or that any positive short-run announcement returns are not sustained over the long run. Given these ambiguous findings and the apparent lack of value creation by acquiring firms, this survey compiles the recent M&A literature with as aim to identify the factors that contribute to a deal's long-run success or failure. Most of the early evidence focuses on short-run announcement returns, which capture the market's expectations about the deal's value creation and may hence deviate from the actual long-term realization. Our survey therefore zooms in the short- and long-run performance implications of a wide range of firm, deal, management, board, and country characteristics that have been tested as potential explanations of M&A returns. We aggregate this evidence on M&A success factors and provide a broader answer to the question: what leads to success or failure in M&A transactions?

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<sup>31</sup> It should be noted that differences between the two studies may be driven by the fact that Fidrmuc et al. (2012) also include private acquirers.



Our study of the literature has identified a set of three deal characteristics (out of more than 25 characteristics investigated) that prove to be consistent predictors of both short- and long-run stock returns as well as long-run operating performance. First, *serial acquisition performance* declines deal by deal as the firm increases its acquisitiveness. Most evidence points at *CEO overconfidence* as a main driver of this underperformance, and there is evidence that unsuccessful acquirers lack the required resources and abilities to achieve learning gains. Second, *related or focused acquisitions* outperform unrelated or diversifying acquisitions, as the former type of acquirers are more likely to have the skills and resources required to operate and integrate the target firm. These findings hold regardless of whether relatedness is measured by means of industry classifications, product market overlap, strategic compatibility, cultural similarities, complementarities in the supply chain, or technological overlap. Third, deal performance is also positively affected by *shareholder intervention* in the form of voting or activism and long-term institutional investors' monitoring and advisory skills.

A first takeaway from our overview is therefore that the long-run underperformance in M&A deals results from *poor acquirer governance* (reflected by CEO overconfidence and a lack of institutional shareholder intervention) as well as from *poor merger execution and integration* (as indicated by the important role of acquirer-target relatedness in the post-merger integration process). Many more dimensions affect deal success but it is hard to draw unambiguous conclusions for these areas of research.

Our second takeaway is therefore that consistent long-run evidence for factors such as CEO incentives, CEO and board connections, ownership structure, method of payment, sources of financing, target financial distress, post-merger restructuring, target acquisitiveness, political economics, and governance spillovers is scarce. For example, CEO equity-based compensation contracts consistently increase short- and long-run stock returns, but there is no evidence on the implications for long-run operating performance. In contrast, the presence of board members with multiple directorships - which usually proxy for reputation and skill - increases long-run operating performance, but evidence for long-run stock returns is scarce.

Given the small number of M&A research areas that consistently predict deal success or failure, it remains essential to investigate both short- and long-run return measures when examining post-deal performance. Moreover, the lack of long-run evidence for many areas of the M&A literature provides substantial scope for further research.

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**Table 1: Serial Acquirers**

This table shows recent studies on serial and frequent acquirers. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression); S (Significant), NS (Not Significant). FF3 stands for the Fama-French models comprising 3 factors (market, size, and market to book); M/B (Market to Book).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect	Results
<b>Panel A: Serial acquirers: Hubris and overconfidence</b>					
Fuller, Netter, and Stegemoller (2002)	SRS, [-2,+2]	3,135 completed deals, US public frequent acquirers, 1990-2000	CARs	Negative	First deals earn 2.74%, 5 <sup>th</sup> and higher order deals earn 0.52%.
Antoniou, Petmezas, and Zhao (2007)	SRS, [-2,+2]	1,401 completed acquisitions, UK public frequent acquirers, 1987-2004	CARs	Negative	First bids earn 1.66%, 2 <sup>nd</sup> and 3 <sup>rd</sup> deals earn 1.14% and 1.04%, 4 <sup>th</sup> and higher order deals earn NS returns.
	LRS, 3 years		CTARs controlled for size and B/M	Negative	Frequent acquirers earn -0.43% CTARs, all-cash bids earn NS and non-cash bids earn -0.52%.
Doukas and Petmezas (2007)	SRS, [-2,+2]	5,848 deals, public UK acquirers, private targets, 1980-2004	CARs	Negative	Overconfident/serial acquirers earn 0.79%, non-overconfident/single acquirers earn 1.34%.
	LRS, 3 years		CTPR using FF 3-factor model	Negative	Overconfident/serial acquirers earn -1.42%, non-overconfident/single acquirers earn -0.93%. First deals earn NS returns, 5 <sup>th</sup> and higher order deals earn -1.72%.
Malmendier and Tate (2008)	SRS, [-1,+1]	3,911 deals, large public US acquirers, 1984-1994	CARs	Negative	Overconfident managers earn -0.90%, non-overconfident managers earn -0.12%.
Billet and Qian (2008)	SRS, [-1,+1]	3,795 completed deals, public US acquirers and targets, 1980-2002	CARs	Negative	First deals earn NS returns, subsequent deals earn -1.51%.
	LRS, 3 years		BHARs, controlled for size and B/M	Negative	First deals earn 31.93%, fourth deals earn 9.86%.
Ismail (2008)	SRS, [-2,+2]	16,221 deals, public US acquirers, 1985-2004	CARs	Negative	CARs: First deals earn 2.67% for first deals, second order deals earn 1.52%, 10 <sup>th</sup> and higher order deals earn NS returns. (ROA results not reported)
	LRO, 3 years		ROA	Negative	
Kose, Liu, and Taffler (2011)	SRS, [-1,+1]	1,888 announced deals, public US acquirers and targets, 1993-2005	CARs	Negative	Overconfident acquirer and target managers earn 12% lower (relative to deals where neither or only one party is overconfident).
Kolasinski and Li (2013)	SRS, [-2,+2]	9,033 deals, public US acquirers, 1992-2006	CARs	Negative	Overconfident acquirers earn 0.70% lower returns, but after experiencing trading losses, the effect becomes NS.
Aktas et al. (2016)	SRS, [-5,+5]	146 completed deals, public US acquirers and targets, 2002-2006	CARs	Negative	Returns decrease by 1.3% if target CEO narcissism increases by 10%.

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**Panel B: Serial acquirers: Learning by CEOs and Organizational Learning**


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Conn et al. (2005)	SRS, [-1,+1]	2,914 completed deals (SR sample), 2,858 completed deals (LR sample), UK public acquirers, 1984-1998	CARs	Negative	Serial acquirers earn 0.37% lower returns. Acquirer CTARs: first deals earn 1.05%, third and higher order deals earn -0.43%. Acquirer ROS: single acquirers earn 0.17%, serial acquirers earn 0.50%. First deals earn 3.53%, negative returns for later deals.
	LRS and LRO, 3 years		LRS: CTARs, controlled for size and M/B. LRO: return on sales (ROS) ind.-adj.	Negative	
Laamanen and Keil (2008)	LRS, 3 years	5,518 acquisitions, public US acquirers, 1990-1999	BHARs	Negative	When the acquisition rate increases, returns decrease by 4.8%.
Croci and Petmezas (2009)	SRS, [-5,+5] and [-2,+2]	4,285 completed deals, US public frequent acquirers, 1990-2002	CARs	Negative	First deals earn 1.60%, 5 <sup>th</sup> and higher order deals earn -0.41%, but difference is NS.
Aktas, de Bodt, and Roll (2011)	SRS, [-5,+5]	381 completed deals, public US acquirers and targets, 1992-2007	CARs	NS	First deals earn -0.12%, subsequent deals earn -1.10%, but difference is NS.
Kengelbach et al. (2012)	SRS, [-3,+3]	20,975 deals, public worldwide acquirers, 1989-2010	CARs	Negative	First deals earn 1.4%, later deals earn NS returns. On average, serial acquirers earn 0.4% lower returns.
Jaffe et al. (2013)	SRS, [-1,+1]	3,820 completed deals, US public acquirers, 1981-2007	CARs	Negative	Returns are 0.69% (0.04%) if at least 2 deals at firm (CEO) level. Returns increase by 1.02% (\$175m) in case of successful preceding deal and if CEO was retained.
Golubov et al. (2015)	SRS, [-2,+2]	12,491 completed deals, US public acquirers, 1990-2011	CARs	Persistent	Serial acquirers with historical average CARs in the bottom quintile earn 1.07% lower CARs for future deals relative to serial acquirers in the top quintile.
Qian and Zhu (2017)	SRS, [-1,+1]	3,500 completed deals, US public acquirers, 1980-2013	CARs	NS	Acquirer pre-merger return on invested capital (ROIC) is not significantly related to CARs. LRS: One-standard deviation increase in pre-merger ROIC increases BHARs by 10%. LRO: One-standard deviation increase in pre-merger ROIC increases ROA by 3%.
	LRS, 3 years LRO, 3 years		LRS: BHARs (matched on size, M/B, and momentum) LRO: ROA	Positive	
Li, Qiu, and Shen (2018)	SRS, [-1,+1]	17,910 completed deals, US public acquirers, 1984-2014	CARs	Positive	One standard deviation increase in organizational capital increases acquirer CARs by 0.26%. LRS: One standard deviation increase in organizational capital increases BHARs by 6.32%. LRO: One standard deviation increase in organizational capital increases ROA by 1.94%. Results are weaker for serial acquirers.
	LRS, 3 years LRO, 3 years		LRS: BHARs, CTPRs (FF3) LRO: Change in ROA	Positive	

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**Panel C: Serial acquirers: Diminishing attractiveness of opportunity set (best opportunities are taken first)**


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Klasa and Stegemoller (2007)	LRS and LRO, one year	3,939 deals, 487 takeover sequences, US acquirers, 1982-1999	LRS: CARs and BHARs, controlled for size and B/M. LRO: ROS, industry-adjusted	Negative	Acquirer CARs/BHARs increase by 12% from year before first acquisition to year before middle acquisition, decrease by 15% after last acquisition. Acquirer ROS increases by 1.8% from $y_{-1}$ to $y_3$ for first deal, decreases by 0.1% for last deal.
	LRS, 5 years		CARs and BHARs, controlled for size and B/M.	Negative	First deals earn insignificant returns, middle deals earn -27.8%, final deals earn -16.7%.

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**Panel D. Target Acquisitiveness**


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Phalippou et al. (2014)	SRS, [-1,+1]	4,286 completed deals, US public acquirers and targets, 1985-2010	CARs	Negative	Acquirer CARs are -0.51% for non-acquisitive targets, -1.67% for targets having made one acquisition over the past 3 years, -6.22% for targets that made 5 or more acquisitions over the past 3 years.
	LRS, 3 years		CTARs	NS	
Offenberg et al. (2014)	SRS, [-5,+5]	1,595 completed deals, US public acquirers and targets, 1986-2007	CARs	Negative	An increase of 1% in the sum of the target's historical CARs increases the acquirer CARs by 0.17% and combined CARs by 0.13%. A unit increase in the target's number of previous deals decreases acquirer CARs by 0.1%

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**Table 2: CEO Incentives and Compensation**

This table shows the studies on CEO Incentives and Compensation. *Legend:* SRS (Short-run stock returns), SRB (Short-run bond returns), LRS (Long-run stock returns), LRB (Long-run bond returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), EBC (Equity-Based Compensation), M/B (Market to Book).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Datta, Iskandar-Datta, and Raman (2001)	SRS, [-1,0]	1,719 deals, US public acquirers, 1993-1998, only 1st acquisition in LR sample	CARs	Positive	High (low) equity-based compensation firms earn 0.30% (-0.25%).
	LRS, 3 years		Bootstrapped BHARs (controlled for size, B/M, and 1-year pre-acq. stock return)	Positive	Low equity-based compensation firms earn 23% lower returns. High equity-based compensation firms do not underperform.
Lehn and Zhao (2006)	SRS, [-5,+20]	714 completed deals, US public acquirers and targets, 1990-1998	CARs	Negative	Firms with CEO turnover earn -2.97%, retained CEOs earn -1.15%.
	LRS, 3 years		BHARs	Negative	Firms with CEO turnover earn -0.242, retained CEOs earn 0.006%
Harford and Li (2007)	SRS, [-1,+1]	370 completed deals, US public acquirers, 1993-2000	CARs	Negative	Acquiring CEO total wealth increases after merger (wage increases, wealth decreases).
	LRS, 3 years		BHARs, ind.-adj.	Negative	
Lin, Officer, and Zou (2011)	SRS, [-2,+2]	709 completed deals, public Canadian acquirers and targets, 2002-2008	CARs	Negative	Firms with CEOs without liability insurance earn 1.42% vs. 0.32% with liability insurance.
	LRO, 3 years		ROA, industry-adjusted, controlled for size, M/B, deal attitude, industry relatedness.	Negative	Acquirer ROA decreases by 2.9% for high liability insurance. Insignificant for low liability insurance.
Phan (2014)	SRS, [-1,+1]	581 deals, US public acquirers, 2007-2010	Bond and stock CARs	Positive (SRS); negative (SRB)	Acquirers with higher inside debt holdings earn 0.10% higher bond CARs and 0.30% lower stock CARs.
	SRB, [-1,+1]				
	LRO, 2 years		LRO: ROA matched on ind. and pre-deal ROA	Positive	Acquirer ROA increases by 1.18% if CEO has high inside debt holdings, but ROA decreases by 1.02% for low inside debt holdings. High inside debt firms' bond BHARs outperform those of low inside debt firms. Difference is NS for stock BHARs.
	LRS, 2 years		LRS & LRB: BHARs		
Feito-Ruiz and Renneboog (2017)	SRS, [-2,+2]	216 deals with European listed bidders and listed and private global targets, 2002-2007	CARs	Positive	Expected performance (short-run CARs) are higher for bidders with high equity-based compensation. Excess CEO compensation reduces the expected value creation.



**Table 3: Professional Ties and Social Networks**

This table exhibits studies on social ties and networks. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant). FF3 stands for the Fama-French models comprising 3 factors (market, size, and market to book); M/B (Market to Book).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Chikh and Filbien (2011)	LRS	200 deal announcements, French public acquirers, public targets, 2000-2005	Standardized monthly CARs, FF3.	Positive	-0.87% lower returns if CEO completes deal despite negative market reactions, 0.57% higher if he acts in line with market reactions. Alpha's are 1% higher if the CEO graduated from a prestigious school.
Wu (2011)	SRS, [-1,+1]	2,194 deal announcements, US public targets, 1991-2003	CARs	Negative	Interlocked deals earn -4%, non-interlocked bids earn -2.1%.
	LRO, 3 years		ROA	NS, except for firms with strong corp. governance	Insignificant change in ROA for interlocked bids, but higher if better governed acquirer. Increase in ROA for interlocked deals with less-transparent targets is 0.089 higher than for non-interlocked deals.
Cai and Sevilir (2012)	SRS, [-2,+2]	1,664 completed deals, public US acquirers and targets, 1996-2008	CARs	Positive	First-degree connected deals earn insignificant returns, non-connected deals earn -2.33%.
	LRO, 3 years		ROA, ind.-adj. and adj. for pre-merger ROA.	Positive	ROA is 0.015 for first-degree connected deals, 0.03 for second-degree, 0.004 for non-connected deals.
Schmidt (2015)	SRS, [-1,+1]	6,857 completed deals, public US acquirers, 2000-2011	CARs	Negative	Bidders with more board members connected to the CEO earn 0.69% lower CARs. The effect of connected board members becomes positive in firms where board advice is important but remains negative in firms where monitoring is important.
	LRS, 360 days		CTPRs (FF3)	NS	Overall effect is NS, but alpha is -0.274% if monitoring is important and 0.789% when board advice is important.
Ishii and Xuan (2014)	SRS, [-3,+3]	539 deals, public US firms, 1999-2007	CARs	Negative	Well-connected firms earn -3.42%, non-connected firms earn -0.98%.
	LRO, 1 year		Ind.-adj. ROA, Tobin's Q, and nr. of employees.	Negative	Higher decrease in ROA and Tobin's Q for well-connected firms, but smaller reduction in number of employees.
Dhaliwal et al. (2016)	SRS, [-1,+1]	2,511 deals, public US acquirers and targets, 2002-2010	CARs	Positive	Bidder returns are 0.70% higher if target and acquirer share auditor, 1% if shared auditor office.
Renneboog and Zhao (2014)	SRS, [-1,+1], [-5,+5], and [-10,+10]	666 deal announcements, public UK acquirers and targets, 1995-2012	CARs	NS	A one-std. dev. increase in a firm's connectedness (through its board members) enhances probability of successful takeover bid by 20%. Connections shorten negotiation time and increase probability of equity as means of payment. Connections are not related to bidder returns.
El-Khatib et al. (2015)	SRS, [-3,+3]	776 completed deals, US public acquirers and targets, 2000-2009	CARs	Negative for acq., positive for target	High-centrality bidder CEOs earn 1.5% lower acquirer CARs, 2.3% lower combined CARs, and 8% higher target CARs relative to low-centrality CEOs.

**Table 3 continued**

Rousseau and Stroup (2015)	SRS, [-1,+1]	809 deals, public (S&P500) US acquirers, 1996-2006	CARs	Negative	Currently interlocked deals earn 1.8% lower returns, historical connections do not affect returns.
Wang and Yin (2018)	SRS, [-1,+1], [-2,+2], [-3,+3]	2,058 completed cross-state deals, US public acquirers, 2000-2015	CARs	Positive	Three-, five-, and seven-day bidder CARs are 1.8%, 2.5%, and 3.7% higher for education-state targets. Three-day combined CARs are 3.6% higher.
	LRO, 3 years		LRO: ROA	NS	

**Table 4: CEO and Board Member Characteristics, Multiple Directorships, and Board Composition**

This table shows studies on CEO and board characteristics, multiple directorships, and board composition. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), M/B (Market to Book), ROS (Return on Sales), ROA (Return on Assets), TFP (Total Factor Productivity).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
<b>Panel A: Board Busyness and Multiple Directorships</b>					
Brown and Maloney (1999)	SRS, [-1,+1]	106 acquisitions, US public acquirers, 1980-1986	CARs	Positive	Multiple directorships increase returns by 0.018%.
Ahn, Jiraporn, and Kim (2010)	SRS, [-2,+2]	1,207 completed deals, public US acquirers, 1998-2003	CARs	Negative	Firms with busy directors earn -1.93%, non-busy directors -0.45%.
	LRO, 3 years		ROS, ind.-adj.	Negative	ROS decreases by 0.026% for busy acquirers, NS for non-busy acquirers.
Dahya et al. (2016)	SRS, [-1,+1]	2,292 deals, UK public acquirers, 1989-2007	CARs	Positive	Acquirer CARs are 1.6% higher for a one-standard deviation (0.18) increase in the fraction of outside directors.
	LRO, 3 years		ROA, ind.-adj.	Positive	A one-standard deviation increase in the fraction of outside directors increases post-merger ROA with 2.05%.
Hauser (2018)	LRO, 1 year	1013 deals, US public targets, 1996-2014	Change in ROA and Tobin's Q	Negative	ROA and Tobin's Q increase by 0.32% (0.21%) and 1.39% (0.95%) in the year following a reduction in director busyness for a director located as far (near) (difference is NS).
<b>Panel B: Board Composition</b>					
Guner et al. (2008)	SRS, [-2,+2]	526 deals, US public acquirers, 1988-2001	CARs	Negative	Acquirer CARs are 1% lower if investment banker on board.
	LRS, 3 years		BHARs	Negative	Acquirer BHARs are lower if investment banker on board.
Custodio and Metzger (2013)	SRS, [-1,+1] and [-5,+5]	4,844 diversifying acquisition deal announcements, US public acquirers and US targets, 1990-2008	CARs	Positive	Acquirer CARs are 1.3% higher if acquirer CEO has expertise in the target's industry.
	LRO and LRS, 3 years		LRS: BHARs, size and B/M matched LRO: ind.-adj. ROA, controlled for pre-merger ROA	NS	
Hilscher and Sisl-Ciamarra (2013)	SRS, [-5,+5]	1,641 completed acquisitions, S&P500 acquirers, 2002-2007	CARs, CDS spread for creditors	Negative	Creditor on board decreases CARs and CDS spread, firm value decreases by 5.1%.
Huang and Kisgen (2013)	SRS, [-1,+1]	86 deals pre-transition, 58 post-transition of executive, large public firms, 1993-2005	CARs, market-adjusted and raw (Diff-In-Diff)	Positive for firms with female execs.	Firms with higher fraction of female executives earn 2% higher returns.
	LRS and LRO			NS	

**Table 4 continued**

Levi, Li, and Zhang (2014)	SRS	5,301 deals, US public acquirers and targets, 1997-2009	Bid premium	Positive	Unit increase in number of female directors reduces bid premium by 15.4%.
Huang, Jiang, Lie, and Yang (2014)	SRS, [-1,+1]	2,465 deals, US public acquirers, 1998-2008	CARs	Positive	Acquirers with investment banker (IB) directors earn 0.80% higher CARs.
	LRS, 1-3 years LRO, 1-5 years		LRS: BHARs LRO: ROS	Positive	LRS: IB director bidders earn 3% (7.1%) higher BHARs after 1(3) years. LRO: IB director bidders have 1.12% (3.31%) higher ROS after 1(5) years.
Jenter and Lewellen (2015)	SRS, [-20,+1]	2,801 completed bids, public US targets, 1989-2007	CARs	NS	
Field and Mkrtchyan (2017)	SRS, [-1,+1]	1,766 completed deals, public US acquirers, 1998-2014.	CARs	Positive	Directors with low acquisition experience earn insignificant returns, those with high acquisition experience earn 1.17%. More prior acquisitions with positive CARs earns higher returns for experienced directors.
	LRO, 1 year		ROA, ind.-adj.; TFP	Positive	Experienced directors increase ROA (TFP) with 0.07% (0.002) and more prior deals with positive CARs increase ROA (TFP) with 0.35% (0.008).

**Table 5: Corporate Culture**

This table shows studies on corporate culture. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), CF (Cash-Flow), CARs (Cumulative Abnormal Returns), ROA (Return On Assets), S (Significant), NS (Not Significant).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Aktas et al. (2011)	SRS, [-1,+1]	106 global completed deals, public acquirers and targets, 1997-2007	CARs	Positive	Acquirer CARs are 0.17% for high CSR targets, -2.53% for low CSR targets. Increase in CSR target rating of one unit leads to an increase in acquirer CAR of 0.9%.
Deng et al. (2013)	SRS, [-1,+1] and [-5,+5]	1,556 completed mergers, public US acquirers, 1992-2007	CARs	Positive	Acquirer returns are insignificant for high CSR acquirers and are -0.49% for low CSR acquirers over [-1,+1]. Acquirer returns are insignificant for high CSR targets and are -0.67% for low CSR targets over [-5,+5].
	LRS and LRO, 1 to 3 years		LRS: CTPR (FF4) LRO: change in CF, controlled for adj. CSR, size, leverage, M/B, industry, and year.	Positive	Acquirer CTPRs are NS for portfolios of low CSR acquirers, and 0.003% for high CSR acquirers in y2 and y3.
Liang et al. (2018)	SRS, [-1,+1]	4,565 global M&A deals, public acquirers, 2002-2014.	CARs	Positive in domestic, negative in cross-border	0.22% higher returns in for a one-standard deviation increase in employee relations in domestic deals, 0.43% lower returns in cross-border deals.
Bereskin et al. (2018)	SRS, [-3,+3]	570 completed deals, US public acquirers and targets, 1994-2014	CARs	Positive	Combined CARs are 1% higher for a one standard-deviation increase in cultural similarity (proxied by CSR scores).
	LRO, 3 years		ROA (ebitda/assets), ind.-adj.	Positive	Post-merger ROA increases by 3.8% in high-similarity mergers, NS in low-similarity mergers.

**Table 6: Ownership Structure**

This table shows studies on ownership structures. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S

(Significant), NS (Not Significant), ROA (Return on Assets), B/M (Book-to-Market). FF3 stands for the Fama-French models comprising 3 factors (market, size, and market to book).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
<b>Panel A. Ownership Structure and Family Ownership</b>					
Ben-Amar and André (2006)	SRS, [-1,+1]	327 completed deals, Canadian public acquirers, 1998-2002	CARs	Positive	Family firms earn 2.1%, non-family firms earn 0.2%.
Bauguess and Stegemoller (2008)	SRS, [-1,+1]	1,411 completed acquisitions, public S&P500 acquirers, 1994-2002	CARs	Negative	Family firms earn -0.74% lower returns, but +0.04% if large board and +0.26% if more insiders.
Basu, Dimitrova, and Paeglis (2009)	SRS, [0,+2]	221 completed deals, newly US public firms acquirers and/or targets, 1993-2004	CARs, corrected for self-selection	Positive	Acquiring firms with low levels of family ownership earn 5% lower CARs. Targets with low family ownership result in higher acquirer CARs.
Shim and Okamuro (2011)	LRO, 3 years	253 completed merger deals, Japanese listed firms, 1955-1973	ROA, Tobin's Q, sales growth, employment growth; all ind.-adj.	Negative	Acquirer ROA increases by 0.6% in non-family firms, NS for family firms. Tobin's Q decreases by 0.7% in family firms, employment grows by 0.4%.
Caprio, Croci, and Del Giudice (2011)	SRS, [-2,+2] and [-30,+30]	2,275 completed deals, publicly listed Cont. Eur. acquirers, 1998-2008	CARs	NS	
<b>Panel B. Ownership Structure and Managerial Ownership</b>					
Hubbard and Palia (1995)	SRS, [-4,+4]	172 completed mergers, public US acquirers, 1985-1991	CARs	Non-linear	If managerial ownership <5%, CARs are +0.33%; -0.16% if >5%, NS if > 25%.
Wright et al. (2002)	SRS, [-1,0] and [-3,+3]	US public acquirers and targets, 1993-1997	CARs, controlled for institutional ownership, acquisition experience, size, and relatedness.	Non-linear	\$100 million increase in value of CEO stock ownership increases returns by 6.7% (7.2%), unit increase in squared value of CEO stock ownership decreases returns by 2.8% (3%) over [-1,0] ([-3,+3]) window.
Schneider and Spalt (2017a)	SRS, [-1,+1]	3,538 takeover bids, public US targets and acquirers, 1987-2008.	CARs	Negative	Acquirer CARs are 0.87% lower if a CEO with high ownership acquires a risky target, and they are 0.36% lower if a CEO with lower ownership acquires a risky target (relative to a less risky target).
	LRO, [-1y,+1y]		ROA	Negative	Acquirer ROA decreases with 1% in the year after a deal announcement if target riskiness increases with one st. dev.

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**Panel C. Ownership Structure, Institutional Investors, and Shareholder Activism**


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Gaspar, Massa, and Matos (2005)	SRS, [-63,+126] and [-1,+1]	3,814 acquisition announcements, US public targets, 1980-1999	CARs	Negative for short-term	High short-term investor turnover earns -0.452% over [-63,+126]; insignificant over [-1,+1].  Acquirer monthly CTPRs/CTARs decrease by -0.7% if short-term investors are present.
	LRS, 3 years		CTPRs and CTARs based on FF3, controlled for institutional shareholder turnover	Negative for short-term	
Chen, Harford, and Li (2007)	SRS, [-1,+1]	2,150 announced deals, US public acquirers, 1984-2001	CARs, market model	NS	Firms with long-term independent institutional investors earn 20% higher BHARs/CTPRs, 5% higher increase in ROA, 1% higher increase in EPS.
	LRS and LRO, 3 years		BHARs and CTPRs, ind.-adj.; change in ROA; changes in analyst earnings forecasts (controlled for size, B/M, pre-acq. return).	Negative for short-term	
Nain and Yao (2013)	LRS, 3 years LRO, 3 years	3,988 deals, US public acquirers and targets, 1990-2006	LRS: CTARs (FF3), BHARs LRO: ROA, ind.-adj.	Positive	LRS: Acquirers with high-skilled investors earn 0.37% higher CTARs and 0.20% higher BHARs. LRO: Change in ROA is 0.10% higher for high-skilled acquirers.
Kempf, Manconi, and Spalt (2017)	SRS, [-1,+1]	2,663 deals, US public acquiring firms, 1980-2010	CARS	Negative	Acquirer CARs are 0.43% lower when shareholders are distracted.  Bidders with distracted shareholders earn 6.1% lower CTPRs.
	LRS, 3 years		CTPRs, FF3	Negative	
Boyson et al. (2017)	SRS, [-1,+1]	467 bids for public US activism targets, 2000-2012	CARs	Negative	Activist bids for activism targets earn 3% lower target CARs than third-party bids.
	LRS, 2 years		CARs, FF3	Positive relative to no bid	Activism bids for activism targets earn 18.4%, third-party bids earn 38.9%. Failed bids earn 17.7%, activist targets that do not receive a bid earn returns insignificantly different from 0.
Becht, Polo, and Rossi (2016)	SRS, [-1,+1]	1,264 bids, UK public acquirers, 1992-2010	CARs (% and \$m)	Positive	Deals with shareholder voting earn 1.74% higher CARs, equivalent to 45.05\$m.
Li, Liu and Wu (2018)	SRS, [-1,+1]	5,223 stock deals, US public acquirers, 1995-2015	CARs (% and \$m)	Positive	Shareholder voting increases acquirer CARs by on average 3.0% (\$96m), or by 9% for high levels of institutional ownership (NS for low levels of institutional ownership).
	LRO, 3 years		ROA	Positive	Shareholder voting increases ROA by 11% for high levels of institutional ownership (NS for low levels of institutional ownership).

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**Table 7: Country Cultural Distance**

This table shows studies on country-level cultural distance. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), B/M (Book-to-Market), ROS (Return on Sales). FF3 stands for the Fama-French models comprising 3 factors (market, size, and market to book).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Datta and Puia (1995)	SRS [-1,0] up to [-30,+30]	112 cross-border deals by public US acquirers, 1987-1990	CARs	Negative	High cultural distance deals earn 5.48% lower returns versus low cultural distance deals over [-30,+30], but NS over shorter event windows.
Morosini, Shane, and Singh (1998)	LRO, 2 years	52 cross-border acquisitions, Italian acquirers, 1987-1992	Sales growth (%)	Positive	Sales growth increases by 0.13% if larger cultural distance.
Conn et al. (2005)	SRS, [-1,+1]	4,344 acquisitions, UK public acquirers, 1984-1998	CARs	Positive	Domestic public deals earn -0.99%, cross-border public deals earn insignificant returns.
	LRS, 3 years		BHARs (adj. for cross-sectional dependence) and CTARs, controlled for size and M/B.	Negative	Domestic public deals earn -19.78%, cross-border public deals earn -32.33%. Similar for CTARs.
Gregory and McCorrison (2005)	SRS, [-3,+1] and [-10,+10]	333 acquisitions, UK public acquirers, 1985-1994,	CARs	NS	US deals earn -27.09%, EU deals earn NS returns, and positive returns elsewhere.
	LRS, 5 years		Bootstrapped BHARs (controlling for size and M/B), and CARs using FF3.	NS for EU, negative for US, positive elsewhere	
Chakrabarti et al. (2008)	SRS, [-1,+1]	1,157 completed cross-border deals, global public acquirers, 1991-2004	CARs	Negative	Acquirer CARs decrease by 0.01% for a 1% increase in cultural distance.
Aybar and Ficici (2009)	SRS, [-10,+10] and [-1,+1]	433 cross-border M&A announcem., emerging-market multinational acquirers, 1991-2004	Standardized CARs	Negative	Acquirer SCARs are -1.38% at announcement date, -0.09% for [-1,+1], -0.121% for [-10,+10].
Reus and Lamont (2009)	LRS, 3 years	118 US multinationals, 1998-2000	BHARs and CARs, relative to (country) market return.	Positive	Acquirer BHARs increase by 19% for a 1% increase in cultural distance.

**Table 7 Continued**

Sarala and Vaara (2010)	LRO, one year	44 international acquisitions, Finnish acquirers, 1993-2004	Knowledge transfer (0-5)	Positive	Knowledge transfer increases by 0.361 (on scale 0 to 5) if larger cultural distance.
Steigner and Sutton (2011)	LRO and LRS, 3 and 5 years	460 completed cross-border deals, US public acquirers, 1987-2004	LRO: ROS, ind.-adj. LRS: CTPRs based on FF3 and BHARs.	Positive	Acquirer CTPRs are -0.84% if target is in country with large cultural distance. NS if similar culture. Acquirer ROS/CTPRs increases if acquirer has many intangible assets in deal with large cultural distance.
Rahahleh and Wei (2013)	SRS, [-2,+2]	1,079 deals from emerging countries, 1985-2008, public acquirers from emerging countries	CARs	Negative	First deals earn 2.57%, subsequent deals earn 0.32% if large cultural distance. Difference is NS for low cultural distance deals.
Dikova and Sahib (2013)	SRS, [-3m; +1m]	1,223 cross-border acquisitions, US and European public acquirers, 2009-2010	Stock price return	Positive effect of cross-border experience	Acquirer stock price increases by 0.614% if target is culturally distant and in case the cross-border acquisition experience is limited.
Ahern, Daminelli, and Fracassi (2015)	SRS, [-1,+1] LRS	827 deals, >\$1m completed cross-border deals, 1991-2008, public worldwide acquirers and targets	CARs BHARs, controlled for country-level market equity, B/M, and momentum	Negative NS	Combined CARs reduce by 28% if increase in trustfulness or individualism (from 25 <sup>th</sup> to 75 <sup>th</sup> percentile).

**Table 8: Geographical Distance**

This table shows studies on geographical distance. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression); S (Significant), NS (Not Significant).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Grote and Umber (2007)	SRS, [-1,+1]	545 deals, US public acquirers and targets, 1990-2004	CARs	Negative	Increase in geographical distance decreases CARs by 0.06%.
Uysal et al. (2008)	SRS, [-2,+2]	3,738 completed deals, US public acquirers, 1990-2003	CARs	Negative	Local transactions earn 2.37% in local transactions, non-local transactions earn 0.90%.
Landier et al. (2009)	SRS, [-1m, +1m]	12,783 divestitures, public acquirers, 1990-2004	CARs	Negative	In-state divestitures earn 3.44%, out-of-state divestitures earn -0.41%.
	LRS, [-1m, +3m]		CARs	Negative	In-state divestitures earn 2.01%, out-of-state divestitures earn -0.94%.
Stroup (2014)	SRS, [-1,+1]	US public S&P1500 acquirers, 1980-2008	CARs	Positive	Acquirer CARs are 3% higher if acquirer has a non-executive director with cross-border acquisition experience.



**Table 9: Corporate Governance and Investor Protection**

This table shows studies on spillovers in corporate governance and investor protection. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), ROA (Return on Assets), ROS (Return on Sales).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Bris and Cabolis (2008)	SRS, [-1,+1] and [-2,+100]	506 cross-border completed global 100% acquisitions, public targets, 1989-2002	Target BHARs (matched domestic sample based on year, target country, industry, and total assets)	Positive	Higher level of shareholder protection in acquirer relative to target country earns a 5.78% higher return for target shareholders, and 13.41% lower target return if bidder country offers lower level of shareholder protection than the target's country.
Martynova and Renneboog (2008b)	SRS, [-1,+1], [-5,+5], and [-60,+60]	737 intra-European cross-border deals, public acquirers or targets, 1993-2001	Acquirer and target CARs	Positive	Stricter governance standards in bidder relative to target earn 0.017% for bidder shareholders and 0.011% for target shareholders.
Wang and Xie (2009)	SRS, [-5,+5]	396 completed acquisitions (297 for long-run sample), US public acquirers and targets, 1990-2004	Combined CARs	Positive	Combined CARs increase by 0.32% for a unit increase in the difference in shareholder rights between acquirer and target.
	LRO, 3 years		ROA and ROS (ind.-adj. and premerger ROA-adj.).	Positive	Combined ROA (ROS) increase by 0.003% (0.004%) for a unit increase in shareholder rights difference.
Kuipers et al. (2009)	SRS, [-20,+5]	181 completed cross-border tender offers, US public target firms, non-US public acquirers, 1982-1991	Acquirer CARs	Negative	A unit increase in creditor protection decreases bidder returns by 0.41%, and by 0.04% if target is incorporated in Delaware. A one unit increase in shareholder protection increases returns by 0.14%.
Capron and Guillen (2009)	LRS, 2-3 years	253 worldwide acquisitions, public and private acquirers, 1988-1992	Target restructuring and resource-redeployment between target and acquirer (scale 0-7)	Positive	Target restructuring: +0.41 if stronger shareholder rights protection in acquirer country than in target country (on scale 0-7); -0.54 if stronger employee rights protection in acquirer country.
John et al. (2010)	SRS, [-1,+1]	1,525 cross-border deals, US public acquirers, 1984-2005	Acquirer CARs	Positive	Public targets from countries with strong shareholder protection earn -0.76%; public targets from countries with low shareholder protection earn 0.94%.
Starks and Wei (2013)	SRS, [-5,+5]	371 completed cross-border (stock-financed) deals, US targets, 1980-1998	Acquirer CARs	Positive	A one unit increase in acquirer country shareholder protection increases returns by 0.07%.
Dessaint et al. (2017)	SRS, [-3,+3]	7,129 worldwide deals, large public acquirers and targets, 1985-2007	Acquirer CARs	Negative	Returns decrease by 1.16% if the country of the target firm increases employment protection.
Renneboog et al. (2017)	SRS, [-5,+5]	1,100 cross-border deals, 2000-2013	Acquirer bond CARs	Positive	Acquirer bondholder returns increase by 7 (8) basis points if there is stronger creditor rights protection (enforcement of creditor rights) in the target's country relative to the bidder's country.
Albuquerque et al. (2018)	LRS, 1 year	9,995 global cross-border deals, 2005-2014	Non-target Tobin's Q	Positive	A one-standard-deviation increase in cross-border M&A deals from a country with stronger shareholder protection increases Tobin's Q by 0.8%.

**Table 10: Political Economics**

This table shows studies on political economy in M&A transactions. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression); S (Significant), NS (Not Significant), ROA (Return on Assets).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Brockman, Rui, and Zou (2013)	LRS and LRO, 3 years	509 global deals, public acquirers, 1993-2004	LRS: BHARs LRO: ind.-adj. ROA	Depends on the legal system	Politically connected acquirers earn 15% higher (20% lower) BHARs in countries with strong (weak) legal systems or low (high) corruption levels. Change in ROA is -2.9% for politically connected acquirers in countries with strong legal systems relative to unconnected firms.
Dinc and Erel (2013)	No event study	415 bids, West-EU public acquirers and targets, 1997-2006	Bid premium (final price offered-target stock price)/(target stock price)	Negative	Bid premium: 43.60% for opposed bids, 33.02% for supported bids (difference is NS).
Jory and Ngo (2014)	SRS, [-1,+1], [-2,+2], [-3,+3]	186 acquisitions of state-owned firms, public US acquirers, foreign targets, 1987-2009	CARs	Negative	Acquirer CARs decrease from -0.83% to -1.16% over [-3,+3] if the target is state-owned.
	LRO, 3 years		ROA		Acquirer ROA decreases from 6.60% to 6.20% for a state-owned target to a lower post-announcement ROA level that is 7.8% lower than that of non-SOE bidders.
Zhou et al. (2015)	SRS, [-2,+2]	825 completed deals, Chinese listed acquiring SOEs, 1994-2008	Acquirer and target CARs	Negative and positive	Private acquirers earn 0.87%, state-owned acquirers earn NS returns. Private targets earn 0.67%, state-owned targets earn 1.36%.
	LRS and LRO, 2 years		LRS: BHARs LRO: ind.-adj. operating cash flow return	Positive	Private acquirers earn 16.91%, state-owned acquirers earn 24.59%.
Ferris et al. (2016)	SRS, [-1,+1]	1,752 bids, US public acquirers and targets, 1997-2013	CARs	Positive	Acquirer CARs are 0.93% higher for connected acquirers relative to non-connected acquirers.
	LRS, 1-5 years LRO, 1-5 years		LRS: BHARs LRO: ROA, ind.-adj.	Positive	Acquirer BHARs are 0.22% (1 year) to 0.54% (5 years) higher for connected acquirers. Post-merger acquirer ROA is 2% (1 year) to 4.8% (4 years) higher for connected acquirers (year 5 is NS).
Nguyen and Phan (2017)	SRS, [-1,+1]	6,376 deals, public US acquirers, 1986-2014	Acquirer and target CARs (% and \$m)	Positive and negative	A one standard deviation increase in political uncertainty (PU) increases acquirer CARs by 0.70% (\$31.4m), but decreases target CARs by 0.96% (\$43.2m).
	LRS, 3 years LRO, 3 years		LRS: BHARs, matched on size and industry LRO: ROA, matched on size, ind., and ROA	Positive	A one standard deviation increase in PU increases acquirer BHARs by 4.6% and ROA by 1.33%.

**Table 10 Continued**

Schweizer, Walker, and Zhang (2017)	SRS, [-1,+1] LRO, 3 years	385 cross-border deals, Chinese public acquirers, 2007-2016	CARs	Negative	Acquirer CARs are 1.6% lower for deals by politically connected CEOs.
Elnahas and Kim (2018)	SRS, [-1,+1] LRS, 5 years	5,830 deals, public US acquirers, 1993-2006	ROE CARs BHARs	Negative NS Positive	Cross-border deals by politically connected CEOs have 14% lower ROE. Acquirer BHARs are 22% higher for deals by Republican CEOs.
Bonaime, Gulen, and Ion (2018)	SRS, [-1,+1] LRO, 1 year	32,286 deals, public US acquirers, 1985-2014	CARs ROA, ind.-adj.	NS NS	

**Table 11: Industry and Product Market Relatedness**

This table shows studies on industry and product market relatedness. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), ROA (Return on Assets), ROS (Return on Sales), B/M (Book-to-Market), TFP (Total Factor Productivity), EBITDA (Earnings before interest, taxes, depreciation and amortization), WC (Networking Working Capital), BV (Book value).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Implications
Schoar (2002)	LRO, 3 years	12,000 acquired plants, US acquirers and targets, 1977-1995	Change in TFP, return on capital, operating profit	Positive	Plant TFP decreases by -0.07% if plant moves to diversified firm (relative to focused firm). Similar results for return on capital and operating profit.
Fan and Goyal (2006)	SRS, [-1,+1]	2,162 completed merger deals, US public acquirers and targets, 1962-1996	CARs	Positive	Vertical mergers earn combined CARs of 2.5%, diversifying mergers earn 1.4%.
Martynova et al. (2007)	LRO, 3 years	858 intra-European deals 1997-2001	(EBITDA - $\Delta$ WC)/ BV <sub>assets</sub> , ind., size, and performance adjusted	NS	
Hoberg and Phillips (2010)	SRS, [-10,0]	6,629 completed deals, US public acquirers or targets, 1997-2006	CARs	Positive	Combined CARs increase by 0.7% if target and acquirer are in similar product markets.
	LRO, 3 years		ROS, sales, new product introductions.	Positive	If merging firms have same product markets, the combined profitability growth increases from -2.3% to -0.6%, combined sales growth increases from -8.4% to 4.6%, and combined product description growth increases from -5.9% to 14.6%.
Bena and Li (2014)	LRO, 1-3 years	1,762 completed deals, US public acquirers and targets, 1984-2006	Innovation output (patent index).	Positive	0.552 higher post-merger innovation output (on patent index with median 4) if the pre-merger technological overlap of the merging firms is above average.
Fresard, Hege, and Phillips (2017)	SRS, [-1,+1]	6,824 deals, worldwide public acquirers or targets, 1990-2010	CARs	Positive	A one standard-deviation increase in the industry specialization difference results in 0.2% higher acquirer CARs and 2.1% higher target CARs.
	LRO, 3 years		ROA, ind.-adj.	Positive	A one standard-deviation increase in the industry specialization difference results in 0.60% increase in ROA.
Lee, Mauer, and Xu (2018)	SRS, [-1,+1]	1,474 completed deals, US public acquirers and targets, 1997-2012	CARs	Positive	A one standard-deviation increase in human capital relatedness increases combined firm CARs by 0.65% in unrelated deals, NS in related deals.
	LRO, 3 years		ROS, ind.-adj.	Positive	A one standard-deviation increase in human capital relatedness increases ROS by 0.80% in unrelated deals.

**Table 12: Distressed Target Acquisitions**

This table shows studies on distressed target acquisitions. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), ROA (Return on Assets), ROS (Return on Sales), M/B (Market-to-Book), CF (Cash-Flow).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Clark and Ofek (1994)	LRS and LRO, 3 years	38 takeovers of distressed firms, public acquirers and targets, 1981-1988	LRS: beta and industry-adjusted CARs LRO: changes in industry-adjusted CF.	Negative	Acquisitions of distressed targets earn -26.5% (beta-adjusted).
Hotchkiss and Mooradian (1998)	SRS, [-1,+5]	55 acquisitions of bankrupt firms, US public acquirers, 1979-1992	CARs	Positive	Acquirer CARs are 4% for Chapter 11 deals versus -1.2% for matching deals. Target CARs are 19.1% for Chapter 11 deals versus 14.3% for matching deals.
	LRO, 2 years		ROS, ind. -adj.	NS	Change in ROS is 0.01% for Chapter 11 deals, 0.009% for matched deals.
Jory and Madura (2009)	SRS, [0,0], [0,+1], [0,+2]	314 acquisitions of bankrupt assets, public acquirers, 1985-2006	CARs	Positive	Returns are 0.87%, 1.89%, and 2.40% for [0,0], [0,+1], and [0,+2] if target is distressed.
	LRS, 3 years		BHARs, control firms selected on past ROA, past change in ROA, M/B, and industry.	NS	
Ang and Mauck (2011)	SRS, [-1,+1]	2,012 mergers, US public acquirers and distressed targets, 1977-2008	CARs	Negative	Acquirer CARs are -1.06% for acquisitions of distressed targets, -0.62% for non-distressed targets.
	LRS, 3 years		BHARs and CTPRs	NS	
Meier and Servaes (2014)	SRS, [-1,+1]	428 acquisitions, US public acquirers, distressed US targets, 1982-2012	CARs	Positive	Acquirer CARs are 2% higher if target is distressed (relative to non-distressed targets).
Oh (2018)	SRS, [-1,+1]	1,098 deals, US public acquirers and targets, 1980-2010	CARs	Positive	Acquirer CARs are 2.5% higher for a one-standard deviation increase in target distress.
	LRS, 2 years		BHARs	Positive	Acquirer BHARs are 23.1% higher for a one-standard deviation increase in target distress.

**Table 13: Post-Merger Restructuring and Divestitures**

This table shows studies on post-merger restructuring and divestitures. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Implications
Kaplan and Weisbach (1992)	SRS, [-5,+5]	271 completed deals, US public acquirers, 1971-1982	CARs	Negative	Unsuccessful divestitures earn -4.42%, successful divestitures earn -0.64%, non-divested acquisitions earn -1.11%.
Owen, Shi, and Yawson (2010)	SRS, [-1,+1]	797 completed divestitures, US public divesting firms, 1997-2005	CARs	Positive	Divestitures earn 1.57%.
Maksimovic, Phillips, and Prabhala (2011)	LRO, 3 years	1,483 deals, US targets, 1981-2000	Plant-level industry-adjusted total factor productivity (TFP) and operating margin	Positive	Acquired plant TFP is 6.3% for retained plants, 2.7% for sold plants. Acquired plant operating margin is 2.1% for retained plants, 0.7% for sold plants.
Netter et al. (2011)	SRS, [-1,+1]	17,421 divestitures, US public acquirers, 1992-2009	CARs	Positive	Divested deals earn 4.4%, 16.3% when combining all deal transactions (acquisition and subsequent divestiture).
Li (2013)	SRS, [-1,+1]	660 deals, US public targets, 1981-2002	CARs	Positive	Combined CARs are 3%; Improvements in productivity (TFP) are associated with higher combined CARs.

**Table 14: Method of Payment and Source of Financing**

This table shows studies on the source of financing. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), ROA (Return on Assets).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Panel A: Method of Payment					
Panel A.I: Stock Payment and Overvaluation					
Martynova et al. (2007)	LRO , 3 years	858 intra-European deals, 1997-2001	(EBITDA - ΔWC)/ BV <sub>assets</sub> , ind., size, and perf. adj.	Negative	Acquirer performance increases by 1% in cash deals, but decreases by 1.2% in all-equity deals, and 1.9% in mixed deals. Difference is NS.
Fu, Lin, and Officer (2013)	SRS, [-42, compl.]	2,062 completed deals, US public targets and acquirers, 1985-2006	CARs	Negative	Acquirer CARs are -17.45% if the acquirer is overvalued and if equity-financing is used; the returns are NS if the acquirer is not overvalued or is cash-financed.
	LRO, 5 years		ROA, industry- adjusted	Acquirer ROA is -0.93% if the acquirer is overvalued and if equity-financing is used. Returns are NS if the acquirer is not overvalued, and are 1.37% if the deal is cash-financed.	
Akbulut (2013)	SRS, [-1,+1]	6,402 deals, US public acquiring firms, 1993- 2009	CARs	Negative	Overvalued acquirers earn 0.88% lower CARs in stock deals, NS in cash deals.
	LRS, 3 years		LRS: BHARs, CTPRs (FF3)	Negative	LRS: Overvalued stock acquirers earn 17.8% lower BHARs and 6.48% lower CTPRs relative to similarly misvalued non-acquirers (NS diff. for cash acquirers).
	LRO, 3 years		LRO: ROA, matched on performance	LRO: Overvalued stock acquirers’ change in ROA is -0.51%, NS for non-overvalued acquirers.	
Ben-David, Drake, and Roulstone (2015)	SRS, [-1,+1]	8,246 deals, US public acquirers, 1989-2007	CARs	NS	High short interest stock acquirers’ value decline is 4.86% (12*40.5 bps) over a 1 year period, relative to a 3.49% decline for high short interest cash acquirers. Results are NS over a 2 year period
	LRS, 1 year and 2 years		CTPRs (FF3)	Negative	
Panel A.II: Alternative Explanations					
Savor and Lu (2009)	LRS, 3 years	1,773 deals, US public acquirers, 1978-2003	BHARs and CTPRs	Positive	Acquirer BHARs (CTPR) are 20.7% (14.2%) higher for completed equity-financed deals relative to withdrawn deals.
Mortal and Schill (2015)	LRS, 1 and 3 years	8,121 M&A firm- years, US public acquirers, 1981-2007	CARs, CTPRs (matched on B/M and size or asset growth)	NS	12-month acquirer CARs are 9.05% lower for stock financed deals relative to size and B/M-matched control firms, difference is NS for asset growth-matched controls. 3-year monthly CTPRs are 0.33% lower in stock deals relative to size and B/M controls, difference is NS for asset-growth controls.
Yang, Guraiglia, and Guo (2017)	SRS, [-1,+1] and [-2,+2]	3,966 deals, Chinese listed acquirers, 1998- 2015	CARs	Positive	Acquirer three- and five-day CARs are 5.9% and 7.4% lower for cash-financed deals.
	LRO, 2 years		ROA, ind.-adj.	Positive	Acquirer ROA is 0.7% lower in cash deals, does not change in stock deals.
Eckbo. Makaew, and Thorburn (2018)	SRS, [-1,+1]	6,200 bids, US public acquirers, 1980-2014	CARs	Negative	Acquirer CARs are 1.0% on average, but the fraction of stock decreases CARs by 0.02% (only for public targets).
	LRS, 3 years		CTPRs (4-factor)	NS	CTPR is insignificantly different for high M/B cash vs stock acquirers.

**Panel B: Source of Financing**

Bharadwaj and Shivdasani (2003)	SRS, [-1,0] and [-1,+1]	115 cash tender offers, public US acquirers and targets, 1990-1996	CARs	Positive for bank/debt	For bank-financed deals, acquirer CARs are 2.08% over [-1,0] and 4% over [-1,+1]. For internally-financed deals, they are -0.32% over [-1,0], and NS for [-1,+1].
Billett et al. (2004)	SRB, [-1m, 0m]	940 deals, US public acquirers and targets, 1979-1997	CARs	Pos. for target, neg. for acq.	Target bond CARs are 1.09% (-0.80% for investment grade, 4.30% for non-inv. grade), acquirer bond CARs are -0.17%. Target (Acquirer) CARs are 2% (025%) if leverage in combined firm is lower than target leverage.
Chatterjee and Yan (2008)	SRS, [-1,+1]	512 bids, public US acquirers, 1989-2004	CARs	Positive	Acquirer CARs are 4.3% higher for CVR stock acquirers relative to stock -only acquirers.
	LRO, 3 years		ROA (OI)	Positive	CVR stock acquirers earn 15.6% higher ROA relative to stock-only acquirers
Martynova and Renneboog (2009)	SRS, [+2,+60]	1,361 acquisitions, public European acquirers and targets, 1993-2001	CARs	Positive for bank/debt, negative for equity	Acquirer CAR are -3.4%, for equity-financed deals, -3.9% for mixed debt-and-equity financed deals, 3% for debt-financed deals, -0.1% for cash-financed (internally funded) deals.
Uysal (2011)	SRS, [-1,+1]	7,814 completed deals, US public acquirers and US targets, 1990-2007	CARs	Positive	Acquirer CARs are 2.3% if the acquirer is overleveraged, and 1.7% if it is moderately leveraged.
	LRS, 5 years		CTPRs	NS	
Billett and Yang (2016)	SRB, 0m	348 deals, US public acquirers and targets, 1985-2004	CARs	Positive if tender offer	Target bond CARs are 5.08% in case of tender offer, 1.61% (NS) in case of no tender offer. Acquirer CARs are NS.
Renneboog et al. (2017)	SRB, [-5,+5]	1,100 cross-border deals, public and private acquirers, 2000-2013	CARs	Positive if better creditor protection	Acquirer bond CARs are -0.04%, target bond CARs are 0.26%. Acquirer bond CARs increase by 0.07% if target country is more creditor-friendly.
Li (2018)	SRS, [-1,+1] SRB, [-1,+1]	292 deals, US public acquirers and targets, 2002-2015	CARs	Negative	Acquirer stock CARs are -1.25% (NS) in stock (cash) deals, bond CARs are NS (-0.17%).



**Table 15: Tobin's Q and Merger Waves**

This table shows studies on historical performance and Tobin's Q. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), ROA (Return on Assets), B/M (Book-to-Market).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Bouwman, Fuller, and Nain (2009)	SRS, [-1,+1]	2,944 acquisitions, US listed acquirers, 1979-2002	CARs	Positive	Acquirer CARs are significantly higher in periods with high stock market valuation.
	LRS and LRO, two years		LRS: BHARs controlled for size and B/M; CTPRs LRO: abnormal return on operating income	Negative	Acquirer BHARs (CTPRs) are -11.32% (16.32%) in booming equity markets; -6.60% (32.40%) in neutral markets; and NS in falling markets. Abnormal return on operating income is 1.72% higher for declining-market deals than for booming-market deals.
Duchin and Schmidt (2013)	SRS, [-1,+1] and [-3,+3]	9,854 completed deals, US public acquirers, 1980-2009	CARs	NS	
	LRS and LRO, 2 years and 3 years		LRS: BHARs LRO: ROA, ind. -adj.	Negative	Acquirer BHARs are 4.65% to 6.25% lower for in-takeover-wave acquirers relative to out-of-wave acquirers. Acquirer ROA is 0.75% to 2.14% lower for in-wave takeovers relative to out-of-wave ones.
Xu (2017)	SRS, [-3,+3]	17,294 deals, worldwide public acquirers, 1990-2010	CARs	Positive	Acquirer (combined) CARs are 0.3% (0.38%) higher for in-wave cross-border deals.
	LRO, 3 years		ROS, ind.-adj.	Positive	Acquirer ROA is 1.2% higher for in-wave cross-border deals.

**Table 16: Other Explanations**

This table shows studies on cross-holdings, anti-takeover provisions, toeholds, deal run-up, analyst coverage, and IPOs. *Legend:* SRS (Short-run stock returns), LRS (Long-run stock returns), LRO (Long-run operating performance); CARs (Cumulative Abnormal Returns), BHARs (Buy-and-Hold Returns), CTARs (Calendar Time Abnormal Returns), CTPRs (Calendar Time Portfolio Regression Returns); S (Significant), NS (Not Significant), M/B (Market-to-Book), SMM (Simulated Method of Moments).

Paper	Return type, event window	Sample size, country, and period	Performance measure	Effect on performance	Results
Panel A. Cross-Holdings					
Matvos and Ostrovsky (2008)	SRS, [-5,+5]	2,529 completed mergers, US public targets, 1981-2003	CARs	Positive	Acquirer returns increase by 1.33% after adjusting for cross-ownership.
Brooks, Chen, and Zeng (2018)	SRS, [-1,+1]	2,604 deals, US public acquirers, 1984-2014	CARs	Negative for target	One more top-10 largest shareholder cross-owner increases combined CARs by 2.0% but decreases target CARs by 1.2%.
	LRS, LRO, 3 years		LRS: BHARs LRO: ROA, ind.-adj.	Positive	Having one more top-10 largest shareholder cross-owner increases BHARs by 0.20% and increases ROA by 0.5%.
Panel B. Anti-Takeover Provisions (ATP)					
Masulis et al. (2007)	SRS, [-2,+2]	3,333 completed deals, US public acquirers, 1990-2003	CARs	Negative	Acquirer CARs are 0.44% for low ATP, and -0.30% for high ATP.
Masulis et al. (2009)	SRS, [-2,+2]	410 deals, US public acquirers, 1995-2003	CARs	Negative	Acquirer CARs decrease by 0.9% if wedge between voting and cash-flow rights increases by 1 standard deviation.
Humphery-Jenner and Powell (2011)	SRS, [-1,+1]	1,900 completed acquisitions, large Australian acquirers, 1993-2007	CARs and DCARs	Negative	Acquirer CARs are 0.56% for large acquirers, 3.13% for small acquirers.
	LRO, 3 years		ROA, ind.-adj., controlled for size and bidder characteristics.	Negative	Acquirer ROA increases with 2.648% for a unit increase in relative deal size.
Harford, Humphery-Jenner, and Powell (2012)	SRS, [-1,+1]	3,935 completed deals, US public acquirers, 1990-2005	CARs	Negative	Acquirer CARs are -0.036% if management is entrenched, NS if not entrenched.
	LRO, 3 years		ROA, ind.-adj.		Acquirer ROA is -1.25% if management is entrenched, NS if not entrenched.
Panel C. Toeholds and Minority Equity Stakes					
Betton et al. (2008)	SRS, [-1,+1]	10,806 bids, US public acquirers and targets, 1973-2002	CARs	Positive	Acquirer CARs are -1.2% for non-toehold bidders and -0.15% for toehold bidders.
Betton et al. (2009)	SRS, [-41,+1]	5,297 deals, US public acquirers and targets, 1973-2002	CARs	NS	Acquirer CARs are NS different between toehold and non-toehold bidders.
Nain and Wang (2016)	SRS, [-1,0], [-2,+2], [-10,+10]	774 minority acquisitions, US public targets and acquirers, 1980-2010	CARs	Positive, except for customers	Target CARs are 6.92%, 10.58%, and 11.58% over the 2, 5, and 10-day windows respectively, acquirer CARs are NS. Rival CARs are 0.14%, 0.32%, and 1.25%, and customer CARs are -0.35%, -0.46%, and -0.40% (NS).
Dinc, Erel, and Liao (2017)	SRS	628 equity stake sales, US public firms, 2000-2012	Premium	Negative if distressed	Distressed acquirers' equity stake sales are subject to an 8% discount.

<b>Table 16 Continued</b>					
Vansteenkiste (2019)	SRS, [-1,+1]	7,552 deal announcements, global public acquirers and targets, 1990-2015	CARs	NS for acquirer, Negative for target	Acquirer CARs are NS. Target CARs are 10.3% in one-stage deals and 3.8% in two-stage deals (difference is statistically significant).
	LRO, 3 years		ROA, ind.-adj.	Positive	Acquirer ROA is 7.1% higher in two-stage deals relative to one-stage deals.
<b>Panel D. Run-Up and Deal Anticipation</b>					
Betton et al. (2014)	SRS, [-41,+1]	3,691 bids, US public acquirers, 1980-2008	CARs	Positive	Bidder CARs increase by 0.10% for every unit increase in target runup.
Wang (2018)	SRS, [-1,+1]	7,185 bids, US public acquirers and targets, 1980-2012	CARs, SMM	Positive	Acquirer CARs are -0.98%, consisting of a 3.84% increase in pre-merger market value and an information revelation effect of -4.85%. Target CARs are 19.33%, of which 10.88% reflects the increase in pre-merger market value and 8.45% reflects a positive information revelation effect.
<b>Panel E. Analyst Coverage</b>					
Tehrani, Zhao, and Zhu (2014)	LRS, 2, and 3 years	1,787 completed deals, US public acquirers and targets, 1985-2005	CARs, BHARs, CTARs (FF3)	Positive	A 1% increase in target analysts increases CARs (BHARs/CTARs) by 0.19% (0.29%/0.25%) and 0.31% (0.21%/0.25%) over a 2 and 3 year period, respectively.
	LRO, 3 years		ROA	Positive	An additional target analyst increases average ROA by 1.44%.
<b>Panel F. M&amp;A transactions and IPOs</b>					
Brau, Couch, and Sutton (2012)	LRS, 1 to 4 years	1,181 deals, public US acquiring firms, 1985-2003	BHARs, matched on M/B and size, and CTPRs (FF3)	Negative	Average BHARs over years 1-3 are 23% lower for acquiring IPO firms relative to non-acquiring IPO firms. Average monthly CTPRs are -0.56% for acquiring IPO firms relative to 0.05% (NS) for non-acquiring IPO firms.
<b>Panel G. Bidder Type, Deal Initiation, and Sales Method</b>					
Boone and Mulherin (2007)	SRS, [-1,+1]	400 deals, US public targets, 1989-1999	CARs	NS	No significant difference between negotiations and auctions.
Fidrmuc et al. (2012)	SRS, [-42,0]	410 deals, public US targets, 1997-2006.	Bid Premium	NS	No significant difference between strategic and private equity acquirers.
Dittmar, Li, and Nain (2012)	SRS, [-2,+2]	4,338 bids, US acquirers and targets, 1980-2007	CARs	Positive if fin. acq.	Acquirer 5-day CARs are 2.03% if competing bid by financial acquirer, 0.22% if competing bid by strategic acquirer (difference of 1.86% is S)
	LRS, [-20,+180]		CARS, BHARs (FF3)	Positive if fin. acq.	Acquirer 6-month CARs and BHARs are 6.25% and 10.98% for competing bids by financial acquirers, relative to NS and 2.18% returns for corporate acquirers (S diff.).
Fidrmuc and Xia (2017)	SRS, [-42,0]	1,098 deals, public US targets, 2005-2011	Bid Premium	Negative	Target-initiated deals have 22% lower deal premiums.
Masulis and Simsir (2018)	SRS, [-2,+2], [-63,+2]	1,268 completed deals, public US acquirers and targets, 1997-2012	CARs, Bid Premium	Negative	Target-initiated deals earn 9.8% lower deal premiums and 7.3% (7.4%) lower target CARs over a 5-day (66-day) event window.